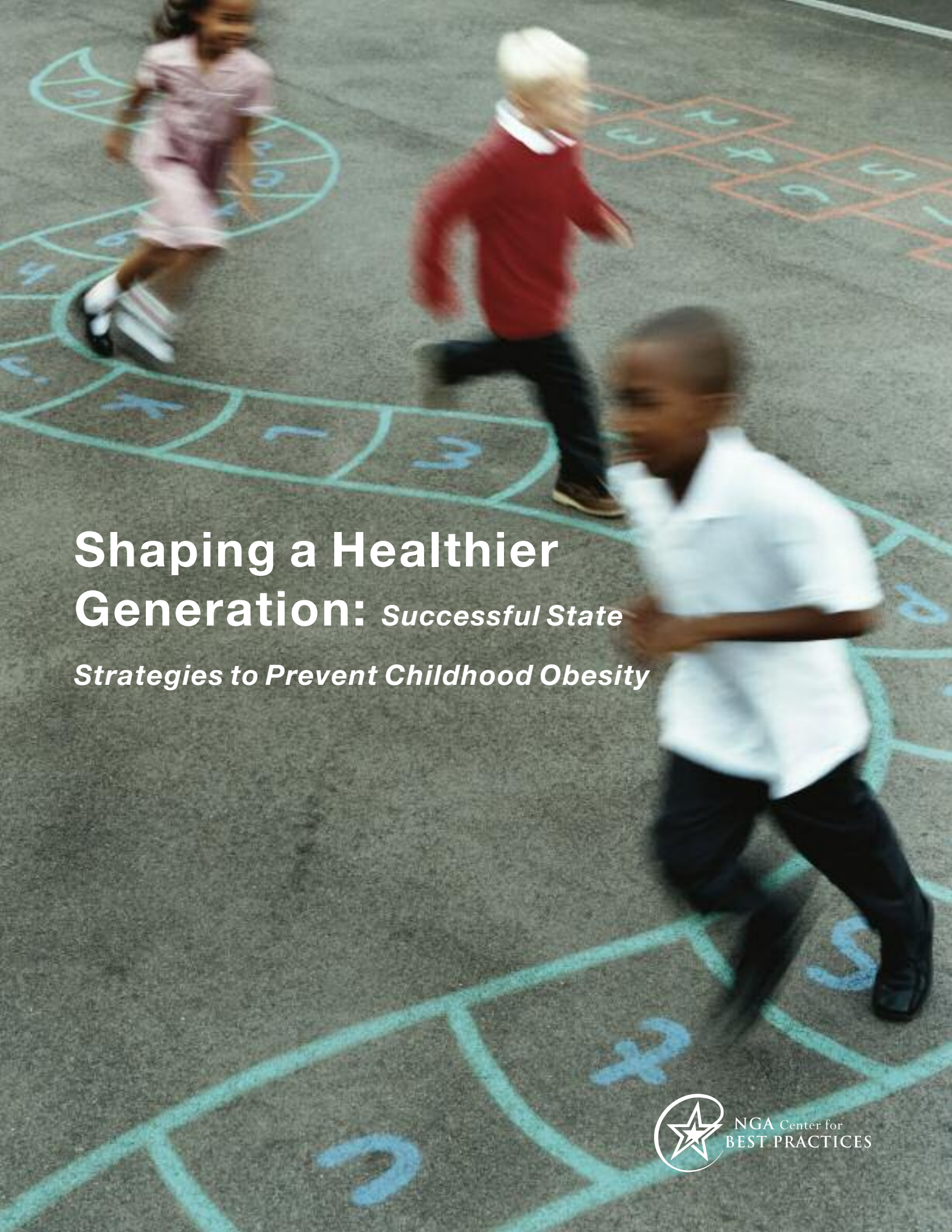

Shaping a Healthier Generation: *Successful State Strategies to Prevent Childhood Obesity*

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Shaping a Healthier Generation:

Successful State Strategies to Prevent Childhood Obesity

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Executive Summary

Studies show that childhood obesity has reached epidemic proportions in the United States. Today, more than 23 million American children—or nearly one in every three—are overweight or obese. Childhood obesity is not an isolated problem. It spans gender, socioeconomic status, race, and age, and impacts everything from academic achievement to health care costs to wellness outcomes over a person's lifespan.

If childhood obesity is left unaddressed, a generation of individuals could face health, social, and economic challenges that promise to stress government at all levels. With comprehensive and coordinated initiatives, governors are uniquely positioned to prevent childhood obesity by harnessing the power of the executive office and the collective efforts of multiple stakeholders throughout the state.

A Call to Action

The NGA Center for Best Practices convened the *Shaping a Healthier Generation Advisory Council* in response to the need for innovative and actionable childhood obesity prevention strategies for governors to implement in their states. This report, based on the Council's work, aims to offer direction to governors and other policymakers who want to craft children's health policies that prevent obesity and advance the well-being of families.

Many governors recognize the need for a multisector obesity prevention strategy even as they realize that efforts to date have not fully addressed the epidemic. Still, governors from coast to coast are committed to improving the health of our nation's children by identifying the policy practices that work best to prevent childhood obesity at the state level.

The trends are clear enough: Obesity rates in the United States have risen 250 percent since 1980, with the condition now affecting 71 million Americans. Obesity rates among children over the past 30 years more than doubled among children ages 2 to 5, quadrupled among children ages 6 to 11, and more than tripled among adolescents ages 12 to 19.

Rising obesity in children leads to higher incidents of diabetes, heart disease, and other chronic conditions that will follow youngsters into adulthood. This will strain the health care system, state budgets, and cost society in multiple other ways by hindering children's ability to grow into healthy, successful adults.

Gubernatorial Leadership and Authority and the Role of State Agencies

Understanding the interrelated factors that influence children's health—family income, household education, and race and ethnicity—can help policymakers effectively target services. Knowing how to use the levers of government—the bully pulpit, governance, funding, data, regulations, and other tools—also can lead to well-coordinated policies that are carried out efficiently and effectively by all the state agencies that impact children's health, including education, health and human services, transportation, housing, and public safety.

Key Policy Settings

Governors can use the following avenues to implement programs and policies that improve children's health:

- **Child Care Settings**—Some 11 million children under age five currently spend a portion of their day in the care of someone other than a parent, at school- or center-based facilities, or at family child care homes. States currently coordinate as many as 80 separate federal, state, local, and private funding methods to pay for comprehensive child care programs and services. Promoting health among children in these settings can significantly enhance school readiness and establish healthy lifestyle habits early on.

- **School Settings**—Recognizing that a child's health status influences academic attainment, more can be done to integrate well-child and healthy eating practices throughout the school system. School efforts can reach millions of children and adolescents throughout the nation—and may save millions of dollars in revenue otherwise lost from obesity- and health-related absences. Farm-to-school programs, purchasing cooperatives, parental monitoring programs, kitchen redesign, marketing and pouring contracts, and nutrition education, as well as programs like Safe Routes to School, can all be part of comprehensive school-based obesity prevention strategies.

- **Community Settings**—Policies that take into account the way a community is designed—in terms of physical space, walkability, access to healthy food grocers, and other factors—effect child and family health as do policies that mitigate the socioeconomic factors that harm a child's ability to lead a healthy life. State efforts to promote a culture of wellness in communities have centered on strategies like transit-oriented development, complete streets, grocery store access, and local food procurement, even as states have worked to increase access to farmers' markets. Voluntary initiatives and public-private partnerships also promise to give kids healthier food and beverage options and more opportunities to be active.

- **Health Care Settings**—The health care sector's presents an important opportunity to prevent childhood obesity by better integrating prevention policies into Medicaid and other public health programs that engage millions of children.

Conclusion

As chief executives of the states, governors have an important platform to promote healthier lifestyles among children and families by invoking the power of the executive office to set the state's vision, strategic direction, and priorities. Gubernatorial leadership serves as a framework within which lawmakers, community leaders, parents, and other key participants can influence policy decisions and implement programs to improve children's health. This report shows that many governors are taking obesity prevention policies and programs to a new level of effectiveness by building wellness practices into child care, school, community, and health care settings and establishing governance systems to enhance program coordination across state agencies. The willingness of governors to proactively address childhood obesity through state-level policy innovations has accelerated national progress in this vital public health area and will ultimately help today's children and youth grow into healthy and productive adults.

Childhood obesity has reached epidemic proportions in the United States. Today, more than 23 million—or nearly one in every three—American children are overweight or obese.[1] These numbers have only increased over the past four decades and the problem continues to take a physical and financial toll on children, families, and the nation.[2] This trend reaches across multiple demographics—spanning race and ethnicity, income, and region. A recent U.S. Centers for Disease Control and Prevention (CDC) study found that nearly 15 percent of low-income children aged 2 to 4 are obese,[3] meaning that they are in the 95th percentile for weight among their peers.[4]

Today's trends indicate that current approaches have not gone far enough to address the epidemic. But governors around the country are committed to improving the health of the nation's children and identifying policies for preventing childhood obesity at the state level.

Trends in Obesity Prevalence

Obesity rates in the United States have risen 250 percent since 1980, and the condition now affects 71 million Americans.[5] Children are not immune to this trend: Nearly one-third of the nation's children are overweight or obese.[6] Those numbers have escalated at an alarming rate; for children of all ages over the past 40 years, obesity has:

- More than doubled among children ages 2 to 5;
- More than quadrupled among children ages 6 to 11; and
- More than tripled among adolescents ages 12 to 19.[7,8]

Obesity-Related Chronic Disease

Chronic disease rates in the United States are alarmingly high—roughly 45 percent, or 133 million Americans, have a chronic disease[9]—and such diseases are responsible for seven out of every 10 deaths in the country.[10] Obesity increases a person's risk for developing a host of serious, chronic illnesses, including heart disease and stroke, diabetes, asthma, and certain types of cancer. In addition, obesity increases a person's risk of death from heart disease by 57 percent, from cardiovascular disease by 48 percent, and from cancer by 7 percent.[11]

Increasingly, children are being diagnosed with chronic diseases once considered adult-only problems, such as type 2 diabetes and high blood pressure.[12] Childhood chronic disease rates have almost quadrupled over the past four decades (from 1.8 percent in 1960 to 7 percent in 2004).[13] An obese older adolescent has up to an 80 percent chance of becoming an obese adult and suffering from associated chronic diseases.[14,15,16] As the prevalence of obesity and chronic diseases has escalated, some experts predict that these children will be the first generation to live sicker and die younger than their parents' generation.[17]

Diabetes and Children

The increase in obese children and adolescents is the most significant factor in the recent rise in type 2 diabetes incidence. Researchers estimate that more than 30 percent of boys and 40 percent of girls born in the United States in the year 2000 will be diagnosed with diabetes during their lifetime.[18] The risk is even higher among ethnic minority groups.

Heart Disease and Children

According to a Louisiana heart study conducted in overweight children and adolescents, nearly 60 percent of overweight children aged 5 to 17 had one or more risk factors for cardiovascular disease; as many as 20 percent of overweight children were found to have two or more risk factors. This landmark study indicates that the consequences of childhood overweight and obesity have significant health implications that will continue to affect individuals well into adulthood.[19]

Economic Toll of Obesity and Chronic Disease

In addition to the serious health consequences, there is a strong economic case for addressing the issue of childhood obesity. According to the Institute of Medicine of the National Academies, the CDC, and leading researchers in the field, if nothing is done to reverse this trend, obesity-related chronic disease and associated health care costs will have drastic consequences on our nation and its economy.

Health Care System Costs

The nation's health care expenditures far exceed those of any other developed country, yet Americans do not experience better health outcomes as a result.[20] The United States currently spends about 18 percent of its total gross domestic product (GDP) on health care—a share that is projected to grow to 34 percent by 2040, if health care costs continue to rise at historical rates.[21]

Government budgets—already experiencing financial challenges due to the 2008-2009 recession—are affected by these expenditures, as well. Half of the health care costs in the United States are paid by federal, state, and local governments through Medicare, Medicaid, the state Children's Health Insurance Program (CHIP), and other programs. This percentage is expected to grow as the economy worsens, job losses mount, and more Americans become eligible for both Medicare and Medicaid.[22]

Childhood Obesity and Chronic Disease Costs

While experts note systemwide inefficiencies as one cause for skyrocketing health care costs, obesity and related chronic disease also are significant contributors. Rising obesity rates account for roughly one-third of the growth observed in health care costs since the mid-1980s.[23] Specifically, obesity trends alone account for more than 38 percent of diabetes spending, 22 percent of high cholesterol spending, and 41 percent of heart disease spending.[24] The overall cost of obesity in the United States was estimated at $147 billion annually.[25]

Figures for childhood obesity are equally astounding. Annual obesity-related hospital costs for children and adolescents were $238 million in 2005, nearly doubling between 2001 and 2005.[26] Childhood obesity alone costs Medicaid more than $3 billion annually.[27]

Expenses associated with chronic disease are a significant portion of the nation's health care budget. More than 75 percent of the nearly $2 trillion in health care outlays is spent on chronic disease and public programs.[28] In addition, patients with chronic disease account for a higher percentage of public spending—more than 96 cents out of every dollar in Medicare and 83 cents out of every dollar in Medicaid.[29] Add to that the indirect costs of chronic disease, such as absenteeism, and the economic impact of obesity-related ill health, and the total amount is staggering. Studies show that obese children tend to miss, on average, two additional days of school every year. These absences can have a financial impact on school district budgets, whose funding is calculated based on student absences. Some project that these losses could reach $15 million to $20 million in large school districts.[30]

Factors Influencing Children's Health

One of the first steps toward decreasing health care costs is understanding the factors that influence health. The obesity epidemic reaches all

children, regardless of race and ethnicity, socioeconomic strata, and geography; however, some children are at greater risk than others. A thorough grounding in these facts may help identify possible targets for intervention.

According to the Robert Wood Johnson Foundation's Commission to Build a Healthier America, three of the more influential social characteristics influencing a child's health include:[31]

- **Household family income.** The socioeconomic breakdown for the nation's children is that roughly 40 percent live in low-income households, 32 percent live in middle-income households, and 28 percent live in higher-income households.
- **Household educational attainment.** In terms of family members' academic achievement, the rate is evenly divided (approximately one-third each) among the number of children who live in homes in which no one has beyond a high school education, at least one person has attended but not completed college, and at least one family member has graduated college.
- **Race and ethnicity.** Nationwide, 57 percent of children are white, 20 percent are Hispanic, 15 percent are black, 4 percent are Asian or Pacific Islander, 1 percent are American Indian or Alaska Native, and 3 percent are in another or more than one racial or ethnic group.

Household Family Income

Household income has a significant impact on children's health for many reasons. Higher family incomes typically lead to better quality housing, lower family stress levels, and increased means to afford a healthy diet. Research has shown that children in the most disadvantaged families experience the worst health status, but even children in middle-class families were less healthy than those in higher-income households. Overall, children living at every income level reported poorer health than the national benchmark for children's general health status, which indicates an unrealized health potential for all children in the United States.[32]

Household Educational Attainment

Higher educational attainment often translates into a higher paying job for parents, which in turn leads to a higher family income. Research shows that children living in households in which family members have only a high school diploma are twice as likely to be in poor health than children living with someone who has some college education. That figure increases to four times as likely when the educational attainment level decreases to a household with no high school diploma.[33]

Race and Ethnicity

Race and ethnicity are important predictors of health. Obesity prevalence has increased by more than 120 percent in the past decade among African Americans and Hispanics. When compared with today's current rates among white children obesity rates are even higher among racial and ethnic minorities (Table 1).[34]

Although race and ethnicity are important predictors of health, they are interrelated with household income. One report from the Robert Wood Johnson Foundation Commission to Build a Healthier America shows that after controlling for race/ethnicity, children in poor, near-poor, and middle-income families were still more likely to be less well than children living in higher income households. It is important to note that at every level of income, black and Hispanic children reported poorer health status than white children.[35]

In addition to the health-influencing factors already mentioned, obesity is often a consquence of where a person lives and what type of access he or she has to public services and programs.[36,37,38] The most vulnerable children live in low-income neighborhoods that have poor housing quality, poor-performing public school systems, more noise, higher crime, and other limitations that severely impair a family's ability to live a safer and healthier life.[39] Although these factors represent significant social challenges, they also afford a multitude of opportunities and settings at which to target interventions.

A Call to Action

In the face of all of this evidence, the nation can do better in countering the obesity epidemic. The individual and economic ramifications of inaction would be devastating to individuals, families, and the nation's economy. The NGA Center for Best Practices convened the *Shaping a Healthier Generation Advisory Council* in response to this need and charged the Council with developing innovative and actionable childhood obesity prevention strategies for governors to implement in their states. The Council strongly focused on preventing childhood obesity, rather than on treating it or on reversing the trend.

Table 1. Percentage of Obesity and Overweight by Age, Race, and Ethnicity[40]

		Ages 2–19	Ages 2–5	Ages 6–11	Ages 12–19
All Children	Overweight	33.6%	26.2%	37.2%	34.3%
	Obese	17.1%	13.9%	18.8%	17.4%
White	Overweight	33.5%	25.0%	36.9%	34.7%
	Obese	16.3%	11.5%	17.7%	17.3%
African-American	Overweight	35.1%	24.0%	40.0%	36.5%
	Obese	20.0%	13.0%	22.0%	21.8%
Mexican-American	Overweight	37.0%	32.6%	42.9%	34.3%
	Obese	19.2%	19.2%	22.5%	16.3%

Source: Ogden, C.L., M.D. Carroll, L.R. Curtin, M.A. McDowell, C.J. Tabak, and K.M. Flegal. 2006. Prevalence of overweight and obesity in the United States, 1999-2004. *JAMA* 295(13):1549-55.

Advisory Council's Charge and Scope of Work

The *Shaping a Healthier Generation Advisory Council* membership reflects a wealth of interdisciplinary expertise in health and health care economics, and early childhood and education policy experts. Council members were asked to draw on innovations from their respective fields and to not be unduly influenced by the field's growing, but limited evidence base. The Council was asked to focus its policy analysis work around the following areas:

- State and local policy levers to address the childhood obesity epidemic;
- Children between the ages of 2 and 13, including preschool, elementary, and middle school students;
- Prevention strategies instead of treatment efforts to reverse obesity; and
- Strategies and innovations—within the parameters of current federal policies—for governors to implement in their states.

The Council then matched innovative strategies to the existing tools and policy options available to governors, including in this report only those efforts that would markedly accelerate progress in childhood obesity prevention. Each recommendation, even those not yet fully researched, is held to a high standard designed to achieve maximum credibility and must:

- Overcome a specific problem;
- Be within the authority of governors;
- Be both fiscally and structurally feasible–particularly given the nation's economic climate;
- Provide some level of specificity for practical implementation;
- Be able to be taken to scale (i.e., statewide);
- Reach large populations of children; and
- Impact to a large degree the health and welfare of the nation's children.

This report, which puts forth a call to action and sets the context for gubernatorial decisionmaking and the role of state agencies, aims to offer direction to governors and other policymakers who want to craft children's health policies that prevent obesity and advance the well-being of all families. The Council's work focused on these interrelated policy areas:

1. ***State Efforts in Child Care, Education, Communities, and Health Care***. States are working to improve the health and welfare of children through child care agencies, schools, community organizations, and health care settings. This report provides states with an inventory of practices being used to prevent childhood obesity and to improve children's overall health.
2. ***State Strategies Leading to a Coordinated Agenda***. These strategies aim to provide every state with the necessary governance structure to ensure a successful, coordinated, statewide obesity prevention plan. In short, every state should consider instituting these elements to enhance the state's management and performance for childhood obesity prevention.

The Council hopes that this report is compelling, useful, and makes a strong case that there is a reason to act.

Chapter 2—Providing Context: Gubernatorial Decisionmaking Authority and the Role of State Agencies

Governors, as chief executive officers of their states, are responsible for setting the state's vision, determining its strategic direction, and establishing statewide priorities. In this capacity, governors make complex policy decisions that are part of an interwoven network of state agencies, federal programs, and private sector stakeholders. To address state needs, governors must generate creative solutions, overcome barriers to needed change, and produce results as effectively and efficiently as possible.

Understanding state government, including the roles and responsibilities of state agencies and policymakers, is important to chart the direction and likely success of state policies related to childhood obesity prevention. This chapter briefly considers the major functions of gubernatorial leadership and authority, as well as the role of state agencies. Each function is critically important; governors chart the strategic direction of state government, and state agencies implement the policies and programs impacting the health and welfare of state residents.

Gubernatorial Leadership and Authority

The governor has many tools and techniques to set the state's policy priorities. For example, governors appoint cabinet secretaries, encourage legislative or regulatory actions, administer the budget, and enact laws. The power of the executive office may be invoked to:

- **Provide Leadership**. Governors can lead by setting a statewide vision, using the power of the bully pulpit to spark public interest, promoting coordination across state agencies, and catalyzing action from the private sector.
- **Enhance Governance**. Governors can enhance government oversight by increasing agency coordination to improve service delivery, program outcomes, and maintain a strategic cross-agency policy agenda.
- **Provide and Coordinate Funding**. Governors can provide resources to issues and outcomes by coordinating federal and state funding support.
- **Collect Data and Inform the Public**. Governors can create an infrastructure to collect data that informs policymaking, links accountability to statewide outcomes, evaluates program effectiveness, and provides transparency to the public.
- **Regulate Practices**. Governors can guide public choice through regulatory practices that impact residents in communities or entice private sector actions, policies, and programs within the state.

State-level policy pursuits may be confined by several factors, including federal constraints, a strong legislature, and limited ability to impose policies on self-governing local jurisdictions. Understanding the interplay among these political units and their spheres of influence are critical to the successful implementation of any state-level policy or program. These layers of decisionmaking authority are highly interconnected; policy decisions in one venue will likely have far-reaching impacts in other areas.

For example, in 2006–2007, the federal government began requiring all school districts with a federally funded school meal program to develop and implement wellness policies that address nutrition and physical activity. To do this, school administrators set school wellness policies on the local level, while the governor may unveil legisla-

tion that outlines school wellness priorities and sets minimum wellness standards for state schools. Once the legislature has passed a bill outlining school wellness priorities, the governor retains the authority to sign the bill in to law. It is then up to the state agencies—under the governor's direction—to make relevant regulatory changes, offer technical assistance to localities, and ensure effective implementation of all the law's provisions.

The Role of State Agencies

Governors are generally responsible for the implementation of laws enacted by their state legislatures and for operating most state departments and agencies. In carrying out these responsibilities, governors appoint department and agency heads, propose state budgets and legislation, and oversee their appointees and the programs for which they are responsible.

In the realm of childhood obesity prevention policies and programs, most state agencies contribute to the health of children in some fashion. In most states, for instance, the Department of Education oversees and administers the National School Lunch Program, a $9.3 billion federal program that serves more than 40 million meals daily to children in schools. Improvements in the nutritional content of school lunches can have a substantial impact on the daily caloric intake for many children. State housing departments, for example, are tasked with the siting of new schools; this is important to helping prevent obesity because children who live near schools are more likely to walk there and to be more physically active.

State agencies, in many ways, implement the policies and programs that serve state residents directly and have both the authority and ability to influence children's health (see Table 2). Whether ensuring that neighborhoods are safe and crime-free or providing health care services for the most vulnerable children, state agencies fill an important and critical role in preventing childhood obesity.

It is important to note, however, that while state agencies retain oversight and authority among a set of critical policy and programmatic functions, governors are able to look across agencies and dictate their strategic direction. Governors are not limited by a state agency authority, but rather have the opportunity and ability to harness the full power of state government to improve the health of children collectively.

Table 2. State Agencies' Oversight of Health-Related Programs and Services

State Agency	Authority	Opportunities to Influence Health
Department of Agriculture	• Administers programs to ensure food and agricultural safety • Administers funding programs for farmers	• Promotes the consumption of state and local produce in businesses, schools, and communities
Department of Education	• Administers state education programs from pre-kindergarten to postsecondary • Administers the federal free- and reduced-price lunch and breakfast programs	• Provides health education and physical activity programs in schools • Provides before- and after-school athletic and recreational programs • Provides improved nutritional options through food programs
Department of Environmental Quality	• Administers services, regulates waste, and monitors environmental quality of land, air, and water	• Provides information to the public on air and water quality • Limits pollution
Department of Health	• Administers Medicaid and the State Children's Health Insurance Program • Collects state resident health information • Administers nutritional and physical activity programs	• Provides billing codes specific to obesity • Provides information to medical community on health trends and alerts
Department of Housing	• Administers zoning regulations • Administers community design regulations, such as school siting and green space	• Influences land use to accommodate physical activity • Enhances community design regulations that improve health
Department of Parks and Recreation	• Administers recreational funding and programs • Administers campsite regulations • Manages long-term park planning	• Promotes the use of state parks, trail systems, and recreational space
Department of Personnel Administration	• Administers state benefit packages	• Provides health benefit packages to active and retired public service employees • Manages retirement programs and services
Department of Public Safety	• Administers law enforcement practices and programs	• Ensures safe community environments
Department of Social Services	• Administers Supplemental Nutrition Assistance Programs (formerly called Food Stamps); Women, Infants, and Children (WIC); and other food programs • Administers and monitors child care programs • Administers income support and children's services	• Develops adult food purchasing programs that meet the state's mandatory nutritional guidelines • Works with child care facilities to monitor nutritional value of foods and physical activity programs
Department of Transportation	• Provides transit system and roadway infrastructure	• Improves pedestrian access, bike routes, and walking trails • Reduces traffic congestion and encourages safer routes to school

Chapter 3—Key Policy Settings for Childhood Obesity Prevention Efforts: Child Care, Education, Communities, and Health Care

Governors are committed to improving the health of our nation's children and defining policies that work at the state level to prevent childhood obesity. Throughout the country, programs and policies are carried out that reach children of all demographics in:

- Child care settings;
- Schools;
- Communities; and
- Health care settings.

Governors can use these avenues to implement programs and policies that improve children's health. This chapter presents an overview and a reason to act within each of these key settings. Each setting is examined in greater depth later in this report (see Chapters 4, 5, and 6).

Child Care Settings

The importance of obesity prevention strategies early in a child's life cannot be overstated. Children at risk for failure in school and poor health are most likely to benefit from high-quality early care and education programs, health care services, family support, and proper nutrition.[41] More than 12 percent of American children aged two to five years are obese.[42] Obesity has been associated with adult chronic diseases including diabetes, heart disease, stroke, hypertension, and some forms of cancer.[43,44,45] Recent research suggests that the origins of adult disease are predicated on developmental or biological disruptions experienced in the early years of life.[46] Promoting health in children from birth to age five can significantly enhance school readiness and establish healthy lifestyle habits early in development.

According to the National Association of Child Care Resource and Referral Agencies (NACCRRA), more than 11 million children under age five currently spend a portion of their day in the care of someone other than a parent. Children may participate in child care in a variety of settings, including school- or center-based facilities or a family child care home.[47] Center-based institutions include preschools, daycare centers, and Head Start centers; family care settings often include self-employed workers offering child care services in a home environment (not including nannies or unpaid relatives).

The challenge for states lies in the patchwork approach historically taken to fund and deliver comprehensive services to young children and their families. These programs and services are spread across multiple state agencies and departments and are rarely coordinated, despite the fact that they may serve the same children and families.[48]

States currently coordinate as many as 80 separate federal, state, local, and private funding methods to pay for comprehensive programs and services.[49] For example, a child care center that serves children ages birth to five may blend funding from a dozen different sources, including the U.S. Department of Health and Human Services (HHS) Head Start program; the Child Care and Development Block Grant; state pre-kindergarten dollars; Early Head Start; the U.S. Department of Agriculture Child and Adult Care Food Program; other grants; and tuition from families not eligible for child care subsidies. These fragmented funding streams—and the differing requirements and standards of each—often result in inefficiencies and gaps in services for children and families.

Unlike schools, child care institutions tend to fall directly within a state's jurisdictional authority to regulate and license. Federal and state child care funds, however, often fail to provide these facilities with sufficient resources to establish licensing and regulatory systems beyond basic health and safety requirements, such as preventing infectious disease.

School Settings

Obesity prevention efforts in the school setting can positively affect the health and welfare of millions of children and adolescents. Yet, school funding is predicated on academic testing performance and other conditions set forth by No Child Left Behind.[50] A child's health status influences many things, including academic attainment and school readiness.[51] However, there are few financial incentives for schools to go beyond traditional instruction and enhance the nutritional content of school foods or to improve the quality of physical education (PE).

Research demonstrates that obese children miss an average of nine more days of school each year than their healthy-weight counterparts.[52] As attendance is a factor in the school funding equation for many states, a single absence can cost a school district $9 to $20 per student, which translates into millions of dollars in lost revenue for larger school districts such as New York City or Los Angeles.[53]

Encouraging schools to improve child health outcomes poses numerous cultural, institutional, and social challenges for both state and local policymakers. Although a myriad of state rules and regulations govern public health, education—both jurisdictionally and philosophically—is deemed a local matter. The two sectors recognize the importance of collaborating on specific issues—and have done so successfully on health-related topics such as childhood immunizations—but partnerships to prevent obesity or chronic disease are still evolving.

To overcome some of these challenges, the CDC offers competitive funding for states to establish liaisons between the U.S. Departments of Education and HHS. In 2004, Congress mandated that all schools administering federally funded meal programs develop and establish wellness policies to enhance nutrition and physical activity in schools.[54] These policies went into effect during the 2006–2007 school year; however, research indicates that schools are either unaware of the federal requirement or need support to implement their wellness plans. One recent state audit found that nearly one-third of the school administrators interviewed were not aware of the federal school wellness policy requirement.[55] Another study found that 40 percent of teachers and 30 percent of school administrators do not consider it a priority and have not fully implemented the nutrition education policies as required.[56]

In relation to state priorities, primary and secondary education consumes nearly 21 percent of states' total spending—the number one state expenditure.[57] States are heavily invested in education and many consider it an economic development imperative for future state growth. To that end, most governors retain some level of authority over state budgets, have veto power over the legislative bills, and are critical to the enactment and implementation of state laws in education settings.[58] Either by encouraging or regulating quality school nutrition and physical activity or education, a governor can have sweeping impacts on children's health in the school setting.

Community Settings

Many aspects of a community—including socioeconomic factors and physical design—influence the health of children and families.[59,60,61,62] According to a report from the Robert Wood Johnson Foundation Commission to Build a Healthier America, "Socioeconomic and racial or ethnic segregation influences neighborhood conditions—and thus health—in a variety of ways, including the funding and quality of public schools, employment opportunities, housing quality, municipal services, and hazards such as pollution, noise, and crime."[63] A child's ability to lead a healthy life is also increased or decreased by:

- Neighborhood physical design;
- Safety of streets and sidewalks;
- Availability of grocery stores and farmers' markets; and
- Accessibility of community parks, resources, and programs that provide children with safe places to play.[64]

Research shows that 70 percent of the factors influencing health are directly related to behavior, social, and environmental factors.[65] The evidence shows a clear link between neighborhood environments and health: increased poverty leads to poorer health.[66] Although childhood obesity affects all children—regardless of wealth, race, or ethnicity—children living in poverty are more vulnerable. In 2006, more than 13 million children lived below the federal poverty line. Of those, 5 million lived in extreme poverty—a higher number than at any point in the past 30 years.[67]

Access to parks, sports facilities, green spaces, bike paths and lanes, and other safe places to play also varies with income.[68] Children who live in communities with higher per-capita income are more likely to have frequent physical activity and to exercise vigorously.[69] Children from lower-income families are far less likely to participate in organized physical activity outside of school. Only 23.5 percent of children ages 9 to 13 from families earning less than $25,000 participated in organized physical activities outside of school, while 49.1 percent of children from families earning $50,000 or more participated in these activities.[70]

Access to public transportation and community design elements—such as pedestrian-oriented infrastructure; connected systems of sidewalks, bikeways, greenways, and transit; mixed-use facilities; and higher density communities—also impact an individual's level of physical activity. Research indicates that individuals living in communities with high levels of coordination between transportation and land use were 1.5 times more likely to meet federal recommendations for daily physical activity than communities with lower levels of connectivity.[71] One study shows children are more likely to walk to and from school when sidewalks are available, especially along main roads.[72]

Emerging research shows that poverty and community factors also have an impact on the availability of healthy foods. In Philadelphia, researchers mapped the city's food landscape, which uncovered an association of poor health with the lower socioeconomic status of neighborhoods and limited access to healthy foods. Diet-related disease mortality rates were higher in low-income neighborhoods with little or no access to grocery stores.[73] This data shows that nutrition education and individual responsibility are only one important part of the equation. Creating changes that help communities offer families and children access to affordable, healthy foods is a necessary strategy for improving the health of residents.

Governors have a powerful platform for promoting healthier lifestyles and supporting community-based wellness efforts. Whether it is through brokering public-private partnerships, increasing grocery store access, or improving neighborhood parks and safety, governors can enhance opportunities for children and families to access nutritious foods and engage in regular physical activity. They can also provide increased incentives—economic and otherwise—for cities, towns, and districts to improve the food systems, support physical activity, and improve neighborhood design.

Health Care Settings

Of the 75 million children in the United States today, 88 percent had health insurance coverage at some point during the last year, while 8.7 million children had no coverage.[74] This percentage is consistent with trends dating back to 1996; however, the Kaiser Commission on Medicaid and the Uninsured asserts that recent downturns in the economy may increase the number of uninsured children in the country by 600,000.[75] When it comes to the distribution of public and private insurance, data from 2006 indicates that 65 percent of children were covered by private health insurance and 30 percent were covered by public health insurance at some point during that year.[76] The health care sector's level of interaction with children presents an important opportunity to impact obesity rates.

In 2007, Medicaid programs in 17 states offered coverage for weight-loss drugs if the patient had type 2 diabetes, hyperlipidemia, or morbid obesity—consistent with Centers for Medicare & Medicaid Services guidelines. In addition to medication, more than 40 states provided reimbursement to the morbidly obese for weight-loss surgery. However, obesity prevention and intervention services for at-risk children are not consistent or reimbursed.[77]

Co-occurring chronic diseases, such as asthma, depression, heart disease, and diabetes frequently complicate the obesity treatment picture and drive up costs. Obese children under Medicaid cost a state, on average, $6,730 each year in medical and pharmaceutical expenditures, while the mean cost for all children under Medicaid is $2,446 per year.[78] Total costs for childhood obesity are estimated at $11 billion for children with private insurance and $3 billion for children with Medicaid.[79] These figures indicate that there may be multiple missed opportunities in the health care setting to prevent obesity—before costly medical treatments become necessary—and curb health care expenses.

One intervention point often overlooked is the routine well-child visit—often the only time a physician will see a child at risk for obesity. Research has identified critical linkages between high-quality, early childhood health care and proper brain development.[80] This, in turn, leads to improved quality of life, better health, and decreased reliance on social services in adulthood. Routine well-child visits can assess child health early in their development and provide families with critical wellness tools, including strategies to prevent unhealthy weight gain.

Some in the research community argue that the routine nature of these visits have led to an overall decline in the quality of services delivered. Research shows that low-income or Medicaid-eligible families and women with low maternal education all receive less guidance and less time when they visit the doctor's office, and do not receive the appropriate level of preventive care or referrals to preventive services offered by the state and communities.[81,82,83]

The gubernatorial role in health care is clear: Governors retain oversight and administration of Medicaid, the nation's largest source of health services, covering 55 million low-income Americans. They have the authority to influence the coverage of early screening and other services impacting children's health.[84] For these reasons, the health care setting is a critical component to building a comprehensive policy agenda at the state level.

Chapter 4—State Efforts in Child Care and Educational Settings

More than 11 million children under the age of five currently participate in some form of child care every week,[85] and more than 55 million children are enrolled in primary and secondary schools throughout the nation.[86] In fact, on any given weekday, one-fifth of the nation's population is in a school setting.[87] Taken collectively, these two venues are arguably the most opportune places for policymakers to improve the health and welfare of the nation's children.

Because of differences in regulatory authority and administrative oversight of child care and school settings, policy options and the level of gubernatorial influence varies. In most states, child care licensing and monitoring are overseen by state agencies; in contrast, schools are generally controlled at the local district level. This chapter considers both venues jointly, because policy strategies covering areas such as nutrition and physical education (PE) overlap considerably.

Child Care Settings

States can initiate policies in child care settings to influence the following areas:

- Nutrition;
- Physical activity;
- Screen time;
- Voluntary initiatives; and
- Public-private partnerships.

Nutrition

The U.S. Department of Agriculture (USDA) runs two major food programs that reach millions of children: the Special Supplemental Nutrition Program for Women, Infants, and Children (known as WIC) and the Child and Adult Care Food Program (CACFP). WIC provides supplemental foods, health care referrals, and nutrition education for low-income pregnant, breastfeeding, and non-breastfeeding postpartum women and to infants and children up to age five who are found to be at nutritional risk. WIC serves 8.7 million people monthly; of those, 6.55 million are infants and children—with a price tag of more than $4.3 billion annually (for additional information about WIC, see Chapter 5).[88,89]

CACFP serves meals and snacks to 2.9 million children daily in day care environments throughout the country at a cost of $1.9 billion annually.[90,91] For-profit child care centers can participate in CACFP when 25 percent or more of a center's enrolled children are eligible for either Title XX (Social Services Block Grant) or free and reduced-price meals.[92] However, there are no nutritional guidelines for foods served through the CACFP program, and CACFP does not prohibit providers from serving non-reimbursable, low-nutrient, calorie-dense foods to children.

USDA programs constitute a major source of food for children, and states are increasingly looking to the child care setting as a valuable location for improving the nutritional content of foods. **Michigan** and **West Virginia** require that meals and snacks served in child care settings follow the USDA Center for Nutrition Policy and Promotion's *Dietary Guidelines for Americans*, and 15 states specify the percentage of children's daily nutritional requirements provided during care. In addition, vending machines are prohibited in areas used by children in **Alabama**, **Georgia**, and **Louisiana**, while **Mississippi** requires that all vending machine contents meet the state's nutrition regulations for meals and snacks in child care settings.[93, 94]

Physical Activity

Dietary Guidelines for Americans recommends that children and adolescents engage in at least 60 minutes of physical activity on most—preferably all—weekdays.[95] For toddlers and preschoolers, the National Association for Sport & Physical Education (NASPE) recommends that:

- Toddlers accumulate at least 30 minutes of structured physical activity and engage in at least 60 minutes of unstructured physical activity each day. Additionally, toddlers should not be sedentary for longer than 60 minutes unless sleeping.
- Preschoolers accumulate at least 60 minutes of structured physical activity and engage in at least 60 minutes of unstructured physical activity each day.[96]

There is little research on activity levels of children in child care settings. However, most states specify the amount of physical activity required in daily child care programs. Currently, 33 states require child care programs to provide physical activity, while nine states specifically require "vigorous" activity for children.[97] Additionally, **Alaska** and **Massachusetts** specify how long children should be engaged in physical activity.[98] Thirty-eight states require children to play outdoors daily (health and weather permitting). **Mississippi** requires the most outdoor play each day: two hours for full-day programs and 30 minutes for part-day programs.[99]

Screen Time

Screen time accounts for the number of minutes a child spends in front of televisions and computers, or playing video games. According to the American Academy of Pediatrics (AAP), children under two years of age should not watch any television, while children over the age of two should watch no more than one to two hours per day of quality programming.[100] In fact, many national organizations have supported limiting screen time for non-educational purposes in educational settings.

According to the Kaiser Family Foundation, two-thirds of infants and toddlers watch an average of two hours per day, while children under six years of age watch an average of two hours of television, videos, or DVDs daily. Among older children, daily screen time doubles.[101]

To date, 10 states limit the amount of allowable screen time per day or week.[102] **Maine** and **New Mexico** limit screen time to one hour per day, while Alaska limits media exposure to one-and-a-half hours per day (but also allows two additional hours for "computer learning activities"). **Vermont** limits most child care settings to five hours per week and small family child care homes to two hours per day.[103]

New York has developed voluntary guidelines that, among other things, limit the amount of time children spend in front of the television on a daily basis at day care and gives providers toolkits to help them implement these changes. The guidelines recommend no more than two-and-a-half hours per five-day week of television or recreational screen time (e.g., videos, DVDs, computers, portable electronic devices), not including computer time used for homework. The initiative also calls for frequently engaging children in active movement and ensuring that all television programming, videos, DVDs, or computer programs used are age-appropriate, nonviolent, and educational.

Voluntary Initiatives

Although some states have pursued mandates to improve the health and welfare of children in child care settings, other states have considered volun-

tary measures to pilot new policies and programs. In 2008, **Tennessee** developed a branding campaign, the Gold Sneaker Initiative, to establish high-quality physical activity and nutrition policies within licensed child care facilities. Under the program, child care facilities that implement standard requirements will earn a Gold Sneaker designation. Parents of all literacy levels can determine the quality of a center's nutritional and physical activity policies from the sticker placed on a center's front door. Additionally, this initiative provides training sessions as part of the state's continuing education curriculum for child care providers as well as implementation support to participating facilities.

Kentucky has developed policies to increase physical activity and improve nutrition choices among preschoolers and after-school youth. The program established new partnerships with early child care specialists and established an early child care committee within the Fit Kentucky Coalition. The goal of this early childhood committee is to pursue nutrition and physical activity standards for licensed child care centers and make training for staff a priority.

Public-Private Partnerships

Many states have pursued public-private partnerships to provide comprehensive early child care and education systems for children. Through these partnerships, states can leverage additional funding opportunities, enhance technical assistance, coordinate and align resources, and build public will for funding and policy initiatives in child care settings.[104]

Smart Start, a public-private partnership initiative in **North Carolina,** aims to improve the quality of child care, make child care more affordable and accessible, provide access to health services, and offer family support. Since its inception, Smart Start has raised more than $257 million in donations (10 percent from private funds) and reaches all 100 counties in the state.[105] To improve children's nutrition and physical health, Smart Start launched the Nutrition and Physical Activity Self-Assessment for Child Care Program (NAP SACC), which offers competitive local community grants to (among other things) reduce childhood obesity. To date, the NAP SACC grant program has reached nearly 3,500 children between the ages of two and five years and 67 centers in nine counties across the state.[106]

Delaware partnered with *Sesame Street* to create a Healthy Habits for Life resource kit for child care institutions. The kit uses evidence-based strategies to promote five or more servings of fruits and vegetables every day, no more than two hours of screen time, one hour of physical activity, and no sugary drinks (Figure 1).[107]

Figure 1. Sesame Street's Healthy Habits for Life Partnership with Delaware

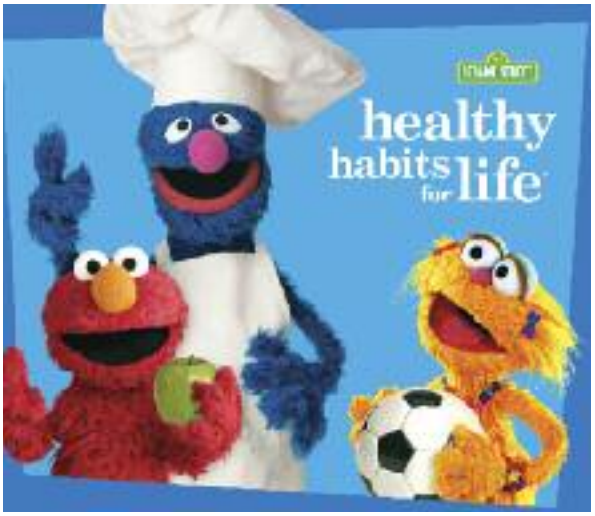

Image courtesy of Sesame Street. "Sesame Street®," "Sesame Workshop®," "Healthy Habits For Life™," and associated characters, trademarks, and design elements are owned by Sesame Workshop. © 2009 Sesame Workshop.

Affordable, Quality Child Care

Obtaining affordable, quality child care is a major challenge for most American families. Families seeking to enroll their children in child care settings that offer a stimulating and enriching academic environment will likely pay more for child care than household food; families with two children are likely to spend more on child care than on rents or mortgage payments.[108] In 39 states and the District of Columbia, the average annual price of infant child care was higher than tuition at a four-year public college.[109]

A recent report by the National Association of Child Care Resource & Referral Agencies (NACCRRA) found that the average annual fees for full-time infant care for one child in a center-based institution can be as high as $15,900 and can constitute more than 15 percent of a family's budget in some states.[110] These costs are considerable even in families where both parents work. Another recent study found that 40 percent of single, low-income working mothers spend at least half of their income on child care expenses.[111]

Given these costs, families must typically choose between the affordability of care and quality. Nutritionally sound meals and snacks, levels of physical activity, and screen time often are not the leading factor when selecting a child care facility. Given the breadth of scientific research supporting healthy brain development and the sheer economic investment that families and governments make in early childhood education and care, offering nutritionally sound foods and active PE policies at day care centers across states would help support the health and welfare of millions of America's children.

Concluding Thoughts

States have more regulatory authority over child care facilities than they do schools, because states control licensing procedures and protocols. As with schools, there are many opportunities for improving the health of children and staff in this setting, particularly in relation to nutritional quality, physical activity, and screen time. States are increasingly pursuing quality initiatives known as Quality Rating Systems (QRS) to create a systematic approach for assessing early childhood programs.

After discovering that 21 percent of its kindergarten children were obese,[112] New York, **New York** became the first locality in the nation to establish licensing and registration services that regulate nutrition, physical activity, and screen time in group family child care homes, child care centers, and school-age child care programs.[113] States such as **Oregon** and **Tennessee** have considered establishing similar guidelines.[114]

School Settings

This section outlines some of the state nutrition strategies employed around the country in school settings in the following areas:

- National School Lunch Program;
- School Breakfast Program;
- Farm-to-school programs;
- Purchasing cooperatives;
- Parental monitoring programs;
- Kitchen redesign;
- Marketing and pouring contracts; and
- Nutrition education.

Other programs and initiatives—namely, the locating of schools; Safe Routes to School programs; physical education; and fitness assessments and Body Mass Index (BMI) data collection—can be used to prevent child obesity as well.

Nutrition

National School Lunch Program

Children consume up to 50 percent of their daily calories in a school setting.[115] The National School Lunch and School Breakfast Programs (NSLP and SBP, respectively) serve more than 40 million meals in school cafeterias daily, reaching nearly half of all school-age children weekly.[116,117] In 2008, the NSLP alone received $9.3 billion in federal government funding, making it the second largest federally subsidized food assistance program in the nation (second to the Supplemental Nutrition Assistance Program.)[118]

Despite this opportunity, federal nutritional guidelines have not been updated to ensure that nutritious foods are being served in schools. States are moving ahead in the absence of federal guidelines. **Connecticut** established nutrition standards for all foods sold to students separately from reimbursable meals. Districts that opt to implement healthy food certification receive an additional 10 cents per lunch served. The state also provides lists of acceptable foods and beverages as well as contact information for vendors, manufacturers, brokers, and distributors from whom schools can purchase food and beverages.

In **California**, schools are prohibited from offering fried foods or those that contain artificial trans fats. State reimbursement funds are tied to school compliance, and schools must submit a certification form to the state Department of Education each year to receive their portion of school meal reimbursements.

In 2007, the **Mississippi** Healthy Students Act was passed to regulate food and beverage choices for students, requiring schools to offer at least one fruit or vegetable option each day. Weekly menus must offer a total of three different fruits and five different vegetables. The act also requires schools to limit fried food whenever possible, use healthy food preparation techniques and USDA-sponsored training materials, and provide the state Department of Education with training documentation and assessment records for school food personnel.

School administrators often cite limited funding as a major barrier to serving more nutritious meals. Between the federal, state, and local meal reimbursement dollars given under the program, schools only cover 82 percent of program costs and are left to make up the difference.[119] To overcome this challenge, schools began introducing à la carte items or competitive foods to offset lost revenue. For example, Pizza Hut, Taco Bell, and Subway continue to be popular lunch options for students: 12 percent of elementary schools, 19 percent of middle schools, and 24 percent of high schools host these brands in their cafeterias.[120] Most schools, however, offer at least some healthy à la carte options (Table 3).

Table 3. Percentage of Schools That Offered Selected à la Carte Foods by School Level[121]

Food	Elementary	Middle	High
Fruit	75%	80%	87%
Lettuce, vegetable, or bean salad	66%	79%	81%
Cookies, crackers, cakes, pastries, and other baked goods not low in fat	45%	56%	68%
Deep-fried potatoes	9%	21%	42%

Source: Robert Wood Johnson Foundation. 2008. Balance: A report on state action to promote nutrition, increase physical activity and prevent obesity. *2007 End of Year Report, Issue 5.* www.rwjf.org/files/research/eoybalance2007.pdf.

There are many opportunities for improvement. In 2007, 14 states enacted legislation pertaining to school meals, vending machines, à la carte items, and farm-to-school programs.[122] States and school systems alike are attempting to offer healthier foods to students, despite severe budget shortfalls resulting from increasing food prices and energy costs.

School Breakfast Program

Children who eat a healthy breakfast perform better academically.[123] Many view universal free breakfast programs as a way to reduce the stigma associated with the program and ensure that all children, regardless of eligibility, are prepared to learn. However, it is important for states to consider the nutritional quality of foods being offered through the breakfast program. Some states have noted a movement to promote "shelf-safe" foods among school breakfast programs. These foods are often calorie-dense and of low nutritional value. This is an important caution, because students are likely to participate in a universal breakfast program if one is offered. Since its inception in the 2000–2001 school year, the Cleveland, **Ohio**, universal breakfast program offered free breakfast and lunch programs to 77,000 students in 122 schools. During the first year, more than five million breakfasts were served to approximately 28,200 students. The program has seen increased participation, especially among students at the secondary level, where an additional 325,000 breakfasts have been served since the program was implemented. A 2001 survey found that nearly 46 percent of parents stated they would not have been able to provide breakfast for their children without the program.

Beginning in the 2010–2011 school year, **Florida** will require each district school board to expand the SBP from elementary schools to all middle and high schools in the state.

Farm-to-School Programs

In recent years, farm-to-school programs have increased in popularity, because they serve as a source of fresh produce for students. In 2007, five states enacted legislation mandating farm-to-school programs.[124]

North Carolina employed this technique for the procurement of state-grown apples. A successful pilot program in the western part of the state led to statewide program expansion in 2004, with participation by nearly 70 school districts and more than 2,400 schools. **New York** pays schools an additional 20 cents for every NSLP meal served if it includes locally grown agricultural goods. Similarly, the **Wisconsin** Department of Public Instruction has issued guidelines that encourage schools to use stimulus funds from the American Recovery and Reinvestment Act (ARRA) for equipment that will influence the farm-to-school program in that state.

Other states named farm-to-school coordinators within their departments of Agriculture or Education to facilitate coordination between agriculture and food programs and businesses within the state. **Connecticut** took it one step further and provides instructional materials for participants across the state as well as up-to-date lists of schools, farmers, or wholesale distributors that have agreed to provide local goods to schools.

Additionally, changes enacted by the 2008 Farm Bill now make it possible for NSLP-participating schools to specify a "geographical preference" for locally produced goods when procuring unprocessed agricultural products, such as fruit, eggs, milk, and meat. Locally sourced contracts increase the availability of fresh fruit, vegetables, and meat for school meal programs, while decreasing transportation energy costs and sustaining local agriculture.

Purchasing Cooperatives

Some schools have partnered in purchasing cooperatives to increase the nutritional quality of school foods and increase their buying power. The Northern **Illinois** Independent Purchasing Cooperative (NIIPC) consists of 11 charter schools and offers comprehensive food service programs that include breakfast, lunch, before- and after-school snacks, vending, concessions, and catering. The NIIPC provides buying power for member schools and saves an average of 9 percent to 35 percent on purchases.

Parental Monitoring Programs

Some schools, such as in **Iowa**, have begun using electronic debit cards to give parents the ability to monitor school food purchases their children make, including the nutritional content of those meals. In addition, this system allows parents to limit specific purchases from à la carte lines and other competitive foods, while also eliminating the social stigma of participating in the free-lunch program.

Kitchen Redesign

Most schools need to enhance food-preparation capacity through small capital improvements, such as refrigerators, ovens, salad bars, and food slicers, to be able to offer healthy options in school. These improvements often come at a considerable cost. Many schools—especially low-income institutions serving children who tend to be most vulnerable to obesity—do not have the requisite financial resources to do so.

For example, **Mississippi** schools served whole produce through the federally subsidized Department of Defense Fresh Fruit and Vegetable Program. However, Mississippi noted that elementary students often used fruit to disrupt class time or just threw them away because peeling an orange or consuming an apple was too challenging for these youngsters. After instituting a small grant program from a local foundation, schools could apply to receive $1,200 in funds to purchase a slicer and sectionizer and were able to successfully reintroduced fresh fruit to the school menu.

The 2009 ARRA devotes $100 million for food service equipment grants to schools that participate in the NSLP. States receive funds based on the administrative expense allocation for their school meals. Local school food authorities will be able to competitively apply for the funds from states. Preference will be given to schools in which more than 50 percent of students are eligible for free or reduced-price lunches.[125]

Marketing and Pouring Contracts

The Federal Trade Commission found that the nation's largest food and beverage companies spent $1.6 billion in 2008 marketing their products to children and adolescents (Table 4).[126] In 2005, the Institute of Medicine of the National Academies conducted an extensive scientific review to better understand media and marketing practices to children.[127] The review found that, in relation to schools, commercial activities appear to be increasing.[128] One survey of high school principals found that more than 50 percent believed that corporate involvement had increased over the past five years.[129]

Of particular interest are "pouring contracts," or "pouring rights"—multimillion-dollar contracts between manufacturers, typically soft drink companies, and school systems that require school districts to exclusively sell particular brands or beverages.[130] These foods are not regulated by USDA and can jeopardize the nutritional integrity of school food programs. In exchange, districts are offered a specified amount of funding for signing multiyear contracts, with additional funds tied to meeting sales quotas.[131] In 2006, 43 percent of districts were prohibited from selling soft drinks produced by more than one company.[132] In addi-

Table 4. Federal Trade Commission Findings for Food and Beverage Marketing to Children

Food Category	Total Reported Marketing for Children Ages 2 to 17 (in thousands of dollars)
Carbonated beverages	$ 492,495
Restaurant foods	293,645
Breakfast cereals	236,553
Juice and noncarbonated beverages	146,731
Snack foods	138,713
Candy and frozen desserts	117,694
Prepared foods and meals	64,283
Baked goods	62,549
Dairy products	54,475
Fruits and vegetables	11,463
Total	**$1,618,600**

Source: Federal Trade Commission. *Marketing Food to Children and Adolescents: A Review of Industry Expenditures, Activities, and Self-Regulation*. Washington, DC: Federal Trade Commission, July 2008. www.ftc.gov/os/2008/07/P064504foodmktingreport.pdf.

tion, 64 percent of school districts received a specified percentage of soft drink sales, and 32 percent received incentives, such as cash awards or donations of equipment, once sales totaled a specified amount.[133]

Distributors often keep local school pouring contracts confidential to discourage schools from comparing contract and fee arrangements with each other. Requiring transparency reduces the private sector's ability to limit the competitiveness of contracts. In 2003, **Arkansas** enacted Act 1220, which required school districts to publicly report revenues and expenditures from vending and pouring contracts each year. By its fourth year of implementation, 89 percent of the districts complied with the reporting requirement. Sixty-nine percent of those districts presented the information in verbal reports at public school board meetings, as part of an annual report, or in the local newspaper. Still other districts disseminated the information in a school newsletter, on their websites, or in another way.

Nutrition Education

Texas's Coordinated Approach To Child Health (CATCH)—a program that aims to teach children how to be healthy through classroom curriculum, school nutrition guides, and family activities to reinforce positive, healthy behaviors[134]—and the 5-a-Day Power Plus curriculum in **Minnesota**—a multicomponent intervention comprised of nutrition curriculum, skill building, and problem solving for students as well as training and support for cafeteria workers—are two comprehensive nutrition education programs that have proven effective at increasing daily fruit and vegetable consumption.[135] These examples show that including nutrition education in school health curricula may be a policy lever for states to consider.[136]

Health promotion and other advertising campaigns in school have been implemented to encourage healthy purchases by students. For example, "Got Milk" ads are displayed in some cafeterias, prompting students to purchase healthier foods and beverages (Figure 2). USDA recom-

mends consuming three cups per day of fat-free or low-fat milk products.

In 2006, the American Heart Association (AHA) and the William J. Clinton Foundation announced an agreement with some food and beverage manufacturers to adopt nutritional guidelines for snacks and drinks sold in schools.[137] An evaluation of the American Beverage Association's voluntary efforts to limit the sale of non-diet sodas and high-calorie beverages in schools showed a reduction by nearly 60 percent in the number of calories shipped to schools since 2004.

Although considered a great success, implementation of these voluntary efforts at the local level has not been without its challenges. For example, the snack food distribution channels are much more numerous and diffuse than those for the beverage industry, making it difficult to implement voluntary efforts for snack foods than for beverages.

Figure 2. "Got Milk" Advertisement

Image courtesy of the Milk Processor Education Program.

Physical Activity

The U.S. Surgeon General recommends that children engage in at least 60 minutes of moderate physical activity on most days. Today, however, only 42 percent of children ages 6 to 11 and only 8 percent of adolescents ages 12 to 19 meet these guidelines.[138] Schools offer several opportunities—inside and outside of the school environment—to enhance a child's opportunity for physical activity.

School Siting

The location of a school and whether it is within walking distance of residential neighborhoods can expand or limit opportunities for children to engage in routine physical activity. In 1969, approximately half of all students walked or bicycled to school (including 87 percent of those students living within a mile of school). Recent figures show that only 13 percent of students now make trips by bicycle or on foot—possibly in part because 52 percent of children lived within two miles of school in 1969, while recent figures show that only 35 percent of students now live within two miles of school. The decrease in the percentage of students walking and bicycling to school correlates with an increase in the percentage of overweight and obese children.[139]

Safe Routes to School

In 2005, Congress passed the Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users Act (SAFETEA-LU) authorizing $612 million to states over a period of five federal fiscal years for the Safe Routes to School (SRTS) program.[140] Under the SRTS program, schools can fund projects such as repainting crosswalks, adding pedestrian countdown signals and repairing sidewalks, adding fluorescent green school zone signs to remind drivers to be conscious of their speed, and temporary speed trailers to display drivers' speeds. These locations represent announced funding to communities as of January 1, 2009, according to data compiled by the

National Center for Safe Routes to School. As of June 30, 2009, twenty-two states have announced funding for more than 900 additional projects. States announcing additional funding and the number of projects awarded are as follows: **Arizona** (43), **Colorado** (19), **Delaware** (2), **Florida** (81), **Georgia** (25), **Idaho** (52), **Indiana** (18), **Iowa** (15), **Louisiana** (7), **Maine** (10), **Massachusetts** (60), **Minnesota** (48), **Mississippi** (12), **Nebraska** (25), **North Dakota** (107), **Ohio** (231), **Pennsylvania** (35), **Texas** (130), **Utah** (3), **Virginia** (6), **West Virginia** (5), and **Wyoming** (2).

Every state receives at least $1 million annually, and funding can be increased based on student enrollment. Since the program's inception just three years ago, more than 4,500 schools throughout the nation have received funds to make walking and bicycling to school safer for children (Figure 3).[141]

In 2006, the **Georgia** Department of Transportation created its SRTS program to increase opportunities for children to walk and bicycle to school safely; encourage healthy, active lifestyles from an early age by making walking and bicycling to school a safer and appealing alternative to transportation; and facilitate projects and activities that will improve safety and reduce traffic. One metro Atlanta jurisdiction saw a 229 percent increase in daily walking and biking to school over a two-year period, while another Atlanta-area school saw a 26 percent decline in traffic congestion at the school within one year of implementation.[142]

Physical Education (PE)

The Institute of Medicine, HHS, and the AAP recommend that students in all grade levels partake in daily PE. The National Association for Sport & Physical Education (NASPE) recommends that schools provide 150 minutes of PE instruction for elementary school students each week. Most states have enacted legislation requiring health and physical

Figure 3. Schools Funded by the SRTS Program

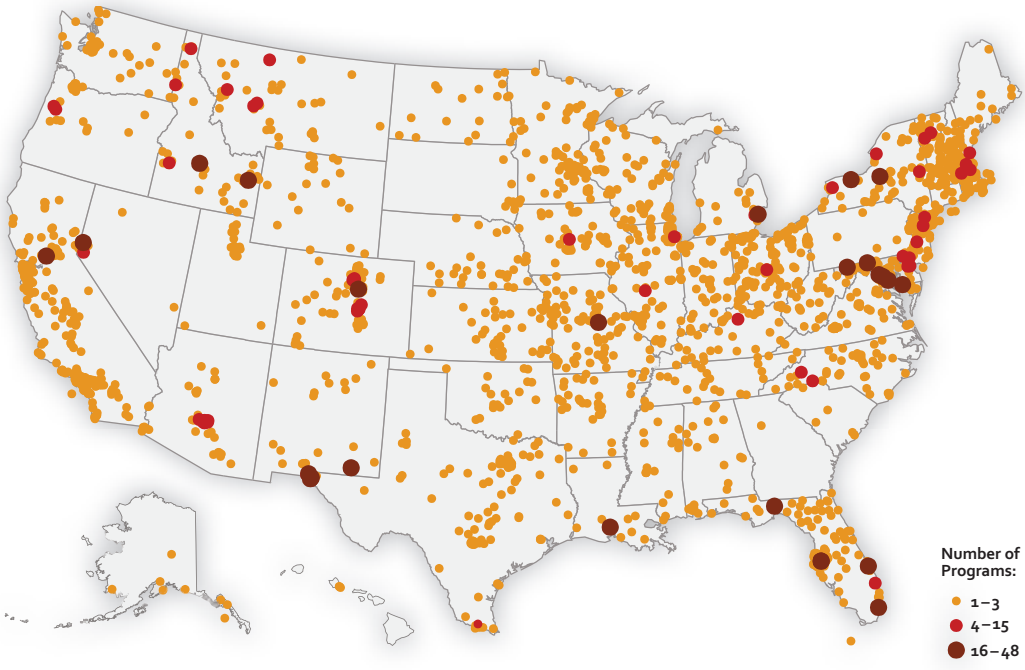

Image courtesy of the National Center for Safe Routes to School, February 2009.

education requirements in the public school system (Table 5),[143] but the requirements vary based on grade level or children's age. However, student participation is often not mandatory.

To improve the quality of physical activity and compliance of state laws in schools, the **Louisiana** Department of Education has a health and physical education coordinator, in accordance with a state law enacted in 2007. The coordinator is responsible for the development, implementation, and monitoring of health and physical education curricula for all grade levels in the state's public elementary and secondary schools. Thus far, the coordinator has developed grade-level expectations for PE, formed a committee to develop health grade-level expectations, and provided monitoring and technical assistance for PE instructional curricula and school system compliance with state and local laws.

In 2007, 25 states adopted policies for PE or physical activity legislation; some of these states have adopted measures that mandate the number of minutes allocated to physical activity. The **Michigan** State Board of Education and the state Legislature are implementing new PE requirements as part of the landmark Michigan Merit Curriculum Program. The requirements include formulating a curriculum that equips students with the knowledge, skills, and attitudes necessary for lifelong physical activity; builds students' confidence and competence in physical abilities; and offers instructional periods of 150 minutes per week in elementary schools and 225 minutes per week in middle and high schools.

North Carolina's State Board of Education unanimously adopted a proposal from the NC Health and Wellness Trust Fund's (HWTF) Study Committee on Childhood Obesity to amend its Healthy Active Children policy, making North Carolina one of the first states to pass a 30-minute physical activity policy at the State Board of Education Level. School districts began implementing this policy at the beginning of the 2006-2007 school year.

HWTF, an agency of state government, has provided in-person training to more than 41,000 teachers on how to implement this mandate by incorporating physical activity into their classrooms through its Fit Kids initiative. Activities that correspond to the Standard Course of Study were developed for teachers to use in the classroom setting. The University of North Carolina at Greensboro found that teacher trainings resulted in more students who were vigorously physically active.

Table 5. Physical Education Programs by State and Number of Participating Students

	Number of States That Mandate PE	Percentage of Schools That Provide PE for Students
Elementary Schools	36	4%
Middle Schools	33	8%
High Schools	42	2%

Source: Robert Wood Johnson Foundation. 2008. Balance: A report on state action to promote nutrition, increase physical activity and prevent obesity. *2007 End of Year Report, Issue 5*. www.rwjf.org/files/research/eoybalance2007.pdf.

Mississippi requires 150 minutes of PE per week for elementary and middle schools and a graduation requirement of 1/2 Carnegie unit in PE for grades nine through 12. With much success, the state Office of Healthy Schools has provided a great deal of direct technical assistance to schools and tied together multiple state, federal, and private foundation funding streams to provide pilot grants to help schools meet the 150-minute requirement.

Florida Governor Charlie Crist launched the Governor's Fitness Challenge to help students improve and chart their progress in five skill areas. This program provides incentives to schools and families to boost physical fitness for Florida's elementary and middle school students. Schools have the opportunity to win thousands of dollars' worth of sports or fitness equipment and to receive designation as a Governor's Fitness Champion School. Since 2007, more than 245,000 students in over 500 elementary and middle schools have participated in the Governor's Fitness Challenge.

According to Active Living Research, a national research program dedicated to building a culture of healthy living among all Americans, 11 studies published from 1967 to 2006 found that regular participation in physical activity resulted in improved academic performance.[144] Additionally, elementary students who receive regular physical activity breaks during the day showed improved cognitive performance and on-task classroom behavior.[145,146,147,148,149,150]

Fitness Assessments and BMI Data Collection

body mass index (BMI) can be used as a surveillance tool to track obesity rates in states, to measure pre- and post-intervention obesity outcomes, or as a screening measure to identify overweight children and connect them to the health care system. The Institute of Medicine and other federal agencies and task forces support BMI data collection in schools or the physician setting.[151] In 2007, 11 states enacted legislation that collects BMI data and/or measures fitness levels.[152] Yet for many states, BMI data collection in schools remains controversial and politically sensitive.

In addition to the political sensitivities, federal privacy laws such as the Family Educational Rights and Privacy Act (FERPA) can add barriers for BMI screening programs (although not for surveillance programs). FERPA prohibits identifiable information from being linked to a specific student through school-based screenings unless the school has approval from parents or guardians. Seeking parental approval is one additional burden for school systems and can limit a school's ability to screen and refer the most vulnerable and needy children to a health care provider.

The debate that remains for most states is whether to collect BMI information in schools or in the health care setting. Experience shows, though, that collecting BMI in the school environment has far greater reach than collecting BMI in the medical setting. (For more information about BMI data collection in health care settings, see Chapter 6.)

Arkansas, the first state to implement BMI screening and confidential reporting results to parents, collects BMI data from 99 percent of public schools in the state, resulting in more than 97 percent of students being assessed with each two-year period. An evaluation of this effort found no negative outcomes related to BMI screening, and increased parents' ability to accurately identify their child's weight status and learn about the connection between childhood obesity and related health problems.[153] **Pennsylvania**, the second state in the nation to collect BMI in schools, began collecting data on a subset of school children in 2005. As of the 2007–2008 school year, the state collects annual BMI data on public school children in all

grades. Schools are required to report aggregate data to the state Department of Health. Pennsylvania will release its three-year BMI data results in the fall of 2009.

In 2007–2008, **Florida** screened nearly 350,000 students in grades 1, 3, and 6 through the School Health Services Program. This data demonstrated that Florida's children were heavier than the national average, and the state responded by:

- Designating a school health coordinator to plan, develop, implement, and evaluate of the local school health program in all 67 county health departments;
- Mandating an active school health advisory council in all 67 counties;
- Encouraging school health coordinators and councils to actively develop and implement federally mandated school wellness policies; and
- Requiring local programs to submit an annual school health report of local program activities and outcomes.

These actions have had substantial success. School nurses performed 18,000 nutrition and physical activity related interventions and provided nearly 90,000 health education classes on nutrition and physical activity.

Arguably, one of the most popular fitness assessment tools used in states and localities today is the FitnessGram, which was developed by the Cooper Institute in Dallas, Texas. The FitnessGram is a comprehensive assessment tool that collects a child's age, height, weight, and physical fitness level by using measures such as sit-ups, push-ups, and flexibility. Children and parents can track progress electronically and assess fitness levels against national performance standards. Schools have the opportunity to calculate BMI based on this tool, because weight and height measurements are recorded. Further, states and municipalities can track fitness trends over the course of a student's enrollment and link this data to academic attainment.[154]

California requires all public school districts to administer the FitnessGram test to students in grades five, seven, and nine—or to about 1.4 million students. More comprehensive than a BMI data collection program, the FitnessGrams are completed by students each year, and results are reported to schools and parents by the California Department of Education. The test is tied to curriculum requirements for grades 10, 11, and 12. Students who do not pass the grade nine test lose the two-year PE exemption allowed by most school districts for those grades.

Rather than using FitnessGram, **Virginia** developed the Governor's Nutrition and Physical Activity Scorecard. In addition, the state has developed the Virginia Wellness Related Fitness Test to track physical fitness levels of its students. The Virginia Department of Health and the Department of Education provided incentives for schools by jointly awarding mini-grants to at-risk school districts to achieve specific performance improvements relative to both the scorecard and fitness test.

Concluding Thoughts

Schools often struggle to find the capacity to manage any additional issues not directly linked to academics, even though research has shown that better student health and welfare may enhance test scores and academic aptitude. Increasingly, research points to improved academic achievement when schools can balance quality PE activities, offer nutritionally sound foods, and pursue high levels of academic achievement and attainment. Invariably, states will continue to experiment in this regard by offering incentives, instituting regulations, and enacting mandates to improve children's health in the school setting.

Reaching children early—during critical developmental years—offers children, families, and the nation an unparalleled opportunity to improve the health, welfare, and lifetime outcomes of children. Research shows that children who partake in quality early childhood education and care show a reduced need for special education, have improved high school graduation rates, and have higher earnings than children who do not participate in such programs. Some evidence seems to suggest that waiting until a child is of school age to offer important obesity prevention strategies may be too late.

Moving Forward

With 11 million children participating in child care weekly and nearly one-fifth of the nation in a school setting every day, policymakers have an opportunity to set quality nutrition and physical activity standards to affect the lives of millions of children weekly. In fact, governors are uniquely positioned to explore innovative programs and policies, implement large-scale change, and evaluate current or new initiatives. For example, governors can improve the health and welfare of the nation's youngest children by instituting nutritional and physical activity standards in state Quality Rating Systems (QRS's) used to assess child care facilities. Programs that serve nutrient-rich foods, restrict vending access, and provide recommended levels of daily physical activity should receive a higher quality QRS designation than those that do not.

Because food service personnel are often not required to have knowledge of nutrition science, menu planning, or healthy cooking habits, governors can set quality nutritional education requirements for school meal planners (at the district or state level, including private sector contactors).[155,156] These requirements would enable states to employ a qualified, educated workforce and set basic certification requirements to ensure that workers have the necessary knowledge, skills, and abilities to create, prepare, and provide healthy meals to students. An ongoing training program would keep school meal planners current on healthy food preparation practices and policies. Compensation and career growth could be associated with overall experience and the number of training hours earned. This is an important opportunity to improve children's nutrition because children consume 20 percent to 50 percent of their daily calories during school hours, but less than 30 percent of states certify, license, or endorse district food services directors.[157, 158]

Community design largely shapes a child's and a family's opportunity to live a healthier lifestyle.[159] A neighborhood's social and economic status is linked to its rates of chronic disease, mortality, and disability; birth outcomes; health behaviors; mental health; and levels of violence and injury.[160] Targeting childhood obesity is a major challenge, because the most vulnerable and impoverished communities are often at greatest risk for obesity. These underserved areas struggle against many complex social, economic, and health challenges. To make substantial and effective changes, government would be required to invest millions, if not billions, to bring these vulnerable communities on par with their healthier counterparts.

Governors and state agencies have a powerful platform for promoting healthier lifestyles and supporting community-based wellness efforts that give children and their families access to nutritious foods and opportunities for regular physical activity. State efforts to promote a culture of wellness in communities have centered on these strategies:

- Transit-oriented development (TOD);
- Complete streets;
- Grocery store access;
- Local food procurement;
- Women, Infants, and Children (WIC) Fruit and Vegetable Voucher Program and Farmers' Market Nutrition Program;
- Calorie and menu labeling;
- Soda tax; and
- Public-private partnerships.

There are many childhood obesity prevention strategies and promising state models available to inform governors' obesity prevention efforts moving forward. This chapter highlights a variety of state efforts underway in communities throughout the nation.

Transit-Oriented Development

TOD involves redesigning neighborhoods to encourage healthy lifestyles among residents and also creating economic opportunities for the area. The goal is to establish communities in close proximity to transit stations, with housing, shops, restaurants, entertainment, and jobs all within walking distance. TOD requires significant funding support and is often a long-term endeavor. To reach neighborhoods most affected by obesity with this strategy, municipalities and states may require more funding to support community redesign, increased safety, and broad economic development measures.

Idaho has taken a regional approach to TOD. The Treasure Valley Partnership of 12 city mayors and three county commissioners secured $510,000 from the U.S. Federal Highway Administration, in a partnership with Idaho Smart Growth, to develop alternative land use and transportation patterns for the region. The partnership also created the Treasure Valley Regional Public Transit Authority and passed a multicounty ballot initiative to develop a regional transit effort.

The Envision **Utah** public-private partnership designed a state Quality Growth Strategy to balance regionwide transportation development with environmental conservation. Envision Utah's process of policy prioritization in creating this plan has become a model for cities and states across the country.

Complete Streets

Complete Streets is an urban planning initiative that strives for balance in transportation and community design to address both health and traffic concerns.[161] The idea is to build complete streets with bike lanes, sidewalks, and room for mass

transit, not simply cars. It can take extensive resources to move multiple communities toward this model. High-crime communities require additional resources to increase police patrols and other public safety measures and give families the opportunity to participate in the recreational activities associated with complete streets.

Several states have implemented complete street initiatives. **Oregon** state law requires that at least 1 percent of all highway funds be allocated for walkways and bike paths. Construction of any road, street, or highway—whether publicly or privately funded—must also include footpaths, bicycle trails, curb cuts, or ramps. **Florida** requires consideration of bicycle and pedestrian paths in the planning and development of any transportation project, especially those within one mile of urban areas. Thanks to this law, on-road bikeways span 63 percent of Florida's highway system.

Grocery Store Access

States can develop loan programs or offer technical assistance and other incentives to attract grocery stores and small businesses that offer healthy food options to underserved communities. Despite the drawbacks to this strategy—the need for resources and effective store management—there are many success stories.

The Fresh Food Financing Initiative in **Pennsylvania** was a direct response to research that showed high rates of diet-related disease in underserved communities with poor access to grocery stores and farmers' markets. The public-private partnership is funded with $30 million in state appropriations that leverages another $60 million in private, matched dollars. The initiative provides financing incentives to fresh food grocers to locate retail stores in underserved areas. Fresh Food financing has successfully developed 68 supermarkets in 27 Pennsylvania counties. Not only did the initiative increase access to nutritious, affordable foods for communities, it also spurred economic development and created or preserved more than 3,700 jobs for community members.[162]

With insight gained by Pennsylvania's successful efforts, **Louisiana** convened the public-private New Orleans Food Policy Advisory Committee in 2008. This group of health experts, food retailing executives, and business, community, and government leaders developed policy recommendations to increase supermarket and other fresh food retail in underserved areas. The city of New Orleans has committed to creating a $7 million funding program to bring supermarkets to underserved areas. Louisiana is also looking to create a similar, statewide program.

Local Food Procurement

Initiatives that facilitate the production and purchase of locally grown fruits and vegetables are dually beneficial:

- Economically, programs help sustain the local agricultural industry by boosting demand for locally grown foods and facilitating the creation of statewide distribution networks.
- Nutritionally, these programs tend to increase access to fresh, whole foods—especially fruits and vegetables—for many underserved populations.

Although brokering food procurement contracts is often the purview of local policymakers and leaders, some governors have initiated these efforts on the state level.

Minnesota's Legislature enacted a Minnesota Grown label and logo program that encourages farmers to grow produce and other agricultural products and encourages residents to buy locally grown products. The law requires farmers and pro-

ducers to purchase rights to use the Minnesota Grown label and logo for a fee. The revenue generated from the fee goes toward enforcement and promotion of the state program. The state also passed a law that requires state institutions to consider purchasing locally grown foods before contracting with out-of-state vendors for similar products.

Connecticut created a statewide food policy council. These councils examine the state's food systems, identify the forces that influence them, and explore ways the food system can promote desired health and agricultural outcomes. Connecticut's food policy council first addressed food insecurity in the state but now manages a broader range of food system issues.

The 2008 federal Farm Bill makes it possible for schools participating in the National School Lunch Program (NSLP) to specify a "geographical preference" for locally produced goods when procuring agricultural products for school meals. However, before the Farm Bill, **North Carolina** took advantage of the NSLP for procurement of state-grown apples. A successful pilot program in the western part of the state was expanded statewide in 2004, with nearly 70 school districts and more than 2,400 schools participating. **Connecticut**'s Department of Education hired a farm-to-school coordinator to help coordinate between agriculture, food programs, and businesses. Their program also provides instructive materials for participants, an up-to-date list of schools, and a list of farmers or wholesale distributors that have agreed to provide local goods to schools. In **New York**, the state pays schools an additional 20 cents for every NSLP meal served, if the meal includes locally grown agricultural goods.

WIC Fruit and Vegetable Voucher Program and Farmers' Market Nutrition Program

WIC recently revised the program food packages to meet the following goals:

- Increase access to fruits and vegetables;
- Give participants more healthy choices; and
- Expand the cultural food options eligible through the program.

The WIC Fruit and Vegetable Voucher program now offers monthly vouchers to mothers and children to purchase fruits and vegetables from authorized WIC vendors, which include grocery stores and farmers' markets. All fresh, frozen, or canned fruits and vegetables are eligible, except white potatoes. States have until October 2009 to implement the new WIC food packages. Many states have established WIC Advisory Councils to provide WIC agencies with information and recommendations on how to ensure participants fully benefit from the new food package as it is rolled out at the local level.

The Farmers' Market Nutrition Program aims to increase access to fruits and vegetables for WIC recipients from May through November. This program teams up with local, WIC-authorized farmers' markets and roadside stands to make it possible for participants to use coupons and electronic benefit transfer (EBT) cards to purchase locally grown, fresh produce from approved farmers' markets. In 2007, 37 states were participating in the WIC Farmers' Market Nutrition Program.

The **New York** Farmers' Market Nutrition Program provides more than $5.6 million in annual redeemable vouchers for the purchase of fresh, locally grown fruits and vegetables from the state's farmers' markets. The program—funded through a combination of New York State Supplemental

Nutrition Assistance Program (SNAP) funds and U.S. Department of Agriculture (USDA) Food and Nutrition Service funds for WIC and seniors—targets nutritionally at risk, low-income women, children, and seniors. The state contributed more than $900,000 to the WIC program and $114,000 to seniors in 2008.[163]

In Milwaukee, **Wisconsin**, the Fondy Food Center Farmers' Market was developed in response to a food system assessment that found high poverty levels and poor access to fresh fruits and vegetables in many of the city's most underserved neighborhoods. Open six days a week for seven months a year, this farmers' market sells produce from 25 local farmers and is equipped with EBT technology for accepting federal SNAP payments.[164]

Calorie and Menu Labeling

As a result of legislative pressure from states, localities, and the public health community, some restaurants are now required to post calorie and other nutrition information on menu boards visible to the consumer at point of purchase.

A New York City Board of Health ordinance went into effect in March 2008 requiring city chain restaurants to prominently post calorie information on menu boards. An industry-sponsored consumer survey found that because of the calorie posts, 82 percent of New York City residents changed their food choices at area chain restaurants, and 71 percent said they switched to lower calorie options.[165]

Westchester County, **New York**; Multnomah County, **Oregon**; and King County, **Washington**, have all passed and implemented menu-labeling measures. Philadelphia followed suit in November 2008 with a law that goes into effect in January 2010.

Other states are taking similar steps:

- In 2008, **California** became the first state to require fast-food and chain restaurants to display calorie information on menu boards.
- In May 2009, the **Massachusetts** Public Health Council passed a similar bill, but added drive-through menu boards to the list of places where calorie information must be posted. The law goes into effect Nov. 1, 2010.
- **Oregon** recently enacted a menu law that took effect in June 2009.[166]
- Nearly 20 other states introduced menu-labeling legislation in 2009.[167]

On the national level, Yum! Brands, Inc. has voluntarily agreed to place calorie information on the menu boards of company-owned Kentucky Fried Chicken, Taco Bell, Pizza Hut, Long John Silver's, and A&W All-American Food restaurants nationwide.[168] In May 2009, Congress introduced the Menu Education and Labeling (MEAL) Act, which aims to set national standards.

Soda Tax

Viewing the success of the tobacco tax in reducing consumption and looking for ways to mitigate budget shortfalls, many states and localities are considering a sugar-sweetened beverage tax. As with any tax, public resistance can be strong, but states that have designated tax revenue for health-related programming tend to experience higher levels of public support.[169] In fact, some economists have suggested instituting a national soda tax to finance health reform legislation.[170]

Several factors need consideration with a soda tax. How large should the tax be? What types of products should be taxed? At what point in the distribution chain should the tax be levied? A brief from the Center on Budget and Policy Priorities (CBPP) lists soda as the primary target for reducing obesity but also targets sports drinks and highly sweetened fruit drinks (as is consistent with WIC program nutrition guidelines). CBPP has suggested that an excise tax levied at the wholesale level is ideal, because this type of tax translates into higher prices and is felt by the consumer at the point of decision to purchase a product—as opposed to a sales tax, which is added at the register after the decision to purchase the product has already been made.[171]

States that tax sodas and other sweet drinks allocate the derived revenue in different ways:

- **Arkansas** has had a soft drink excise tax of roughly two cents per can at the wholesale level since 1992. This tax raises an estimated $40 million each year, which is allocated to the state's Medicaid program.
- **West Virginia** allocates its estimated $12.5 million soft drink tax revenue—generated from a $0.01 tax for every half liter of soda sold and a $0.80 per gallon of syrup tax levied at the wholesale level—to fund its medical dental and nursing schools.[172]
- **California** has a 7.25 percent tax on soft drinks, which generates an estimated $218 million annually for the state's general fund.[173]
- In 2009, **Massachusetts** proposed a bill to levy an 8 percent tax on soft drinks and a 10 percent tax on snack foods for an estimated $121.5 million for fiscal year 2010. The dollars would go into a wellness fund for health care and public health prevention programs. At time of publication, this bill was still being considered by the state legislature.[174]

Public-Private Partnerships

Many states and localities have brokered public-private partnerships to improve the health and welfare of a community. Many private businesses—small and large—have contributed funding to improve the health of children by supporting local sports teams, building school tracks, funding education initiatives, and creating grant programs, among others initiatives. As the economic shortfalls continues to deteriorate, private sector organizations are less likely to make philanthropic investments in communities. However, there are a multitude of possibilities for states and localities to partner with the private sector, and many already are.

In 2006, **Mississippi** Governor Haley Barbour and the first lady partnered with Blue Cross Blue Shield of Mississippi to launch a statewide, mass-media campaign called Let's Go Walkin' Mississippi. The goal was to encourage individuals, communities, and schools to be more active. The health insurance provider invested $3 million over two-and-a-half years, which included development of marketing and collateral materials, multiple radio and TV spots featuring the governor and first lady, 17 organized community walks, Let's Go Walkin' Mississippi starter kits distributed to more than 530 schools, implementation trainings conducted in 12 different regions across the state, and walking trails built in eight or more schools.

In 2005, the **North Carolina** Health and Wellness Trust Fund (HWTF) partnered with Blue Cross Blue Shield of North Carolina to unveil Fit Community, a program to recognize and reward municipality and countywide efforts to promote physical activity, healthy eating, and tobacco-free programs, policies, environments, and lifestyles. Fit Community designations and grants reward North Carolina communities for creating and implementing a sustainable action plan to avoid or remedy preventable chronic health problems in their community. HWTF continues to provide

grant funding to communities across the state to implement active living projects and partners with Active Living by Design to provide intensive technical assistance to communities who want to make their environments more conducive to healthy lifestyles. Funding has been provided to 32 communities to help them establish community gardens, walking trails, greenway connectors, and park amenities.

In 2005, **Arkansas** produced *Healthy Arkansas: Better State of Health Guide Book*, a comprehensive health guide for free distribution, in partnership with the Eli Lilly Company and the Gerber Company. At Wal-Mart stores, the state organized a series of "nutrition days," when any interested person could stop by the store, pick up a free copy of the guide, and have a conversation with a nutritionist. Gerber's post-campaign market research found that the information and resources were well-received by consumers.

Local and state universities often partner with communities to evaluate obesity prevention efforts. **Massachusetts**' Shape up Somerville initiative, funded by the CDC, is a three-year, environmental intervention designed to prevent obesity in culturally diverse, high-risk children in the first and third grades. According to an evaluation by the Friedman School of Nutrition Science and Policy at Tufts University, Shape up Somerville decreased the BMI scores among area children.

Moving Forward

The community setting is a critical venue for improving the health and welfare of our nation's children. To improve the nutritional content of foods served to our most vulnerable families, governors can establish nutrition guidelines that are consistent with USDA *Dietary Guidelines for All Americans*. For example, setting nutritional guidelines among the five major food programs would reach upwards of 30 million children and families.

The USDA funds the majority of national food programs for the most vulnerable children, families, and senior citizens, with a portion of the total federal spending going to states.[175] Last year, the Food Nutrition Service (FNS), the division of the USDA that supports major food programs serving at-risk and underserved populations, received $60 billion in federal funds to provide children and low-income people access to food, a healthy diet, and nutrition education (Table 6). The FNS estimates its budget to grow to $82 billion in 2009 and up to $93 billion by 2010. These food and nutrition programs reach millions of Americans, including children living in low-income households who are most at risk for obesity. Because these federally funded programs are implemented at the state and local levels, they offer governors an unparalleled opportunity to influence healthy eating in schools, at child care centers, and at home without increasing fiscal burdens on states.

Table 6. Highlights of Some USDA Food Programs

Food Program	Description	Participation/Use	2008 Total Annual Budget
Supplemental Nutrition Assistance Program	Program helps low-income families buy nutritious food; program is first line of defense against hunger	28 million people	$37.6 billion
National School Lunch Program	Schools receive cash reimbursements for meals served during lunch and are eligible to receive donated commodity foods to help reduce lunch programcosts	31 million children	$9.3 billion
School Breakfast Program	Similar to the NSLP, schools receive cash assistance to operate nonprofit breakfast programs in schools and residential child care institutions	10.6 million children	$2.3 billion
Child and Adult Care Food Program	Program provides nutritious meals to low-income children and adults who receive day care outside of the home	3.2 million people daily	$2.4 billion
Women, Infants, and Children	Program serves low-income women, infants, and children up to age five who are at nutritional risk; provides nutritious food to supplement diets; and offers information on healthy eating and health care referrals	8.7 million	$6.2 billion

Source: U.S. Department of Agriculture. Food and Nutrition Service. *Annual Summary of Food and Nutrition Service Programs*. www.fns.usda.gov/pd/annual.htm.

States, however, should maintain the authority to waive nutritional standards in extenuating circumstances, such as hunger relief efforts during a natural disaster.

Establishing nutrition standards at the state level and applying them across all programs would ensure greater continuity, reduce program fragmentation, and improve the nutritional quality of food for millions of children and families. Governors and states are pursuing efforts to promote healthier lifestyles and community-based wellness. Continued commitment to these efforts will provide children and families with better access to nutritious foods and opportunities to engage in regular physical activity, thereby preventing obesity and boosting long-term health.

The health care system will invariably be one place—among many—to address the childhood obesity epidemic. Yet, the role of doctors, nurses, and other providers is uncertain and still evolving; treatment protocols, likewise, are largely untested. To date, the only proven, effective medical intervention that yields long-term, sustainable weight loss is gastric bypass surgery, which is neither a prevention modality nor a feasible health care policy option for children.[176] There are, however, several health care strategies that have proven effective in other related disciplines. This chapter examines those strategies and their potential applicability to obesity prevention.

There are state policy options for engaging the health care system in obesity prevention, including some that effectively involve physicians and the larger health community. However, only a few directly relate specifically to childhood obesity. The following are successful state models mostly drawn from other health care disciplines that can be explored at the state level to see whether they would apply to obesity prevention:

- Body mass index (BMI) data collection;
- Electronic health records;
- Physician counseling;
- Early Periodic Screening, Diagnosis, and Treatment (EPSDT) services;
- School-Based Health Centers (SBHCs); and
- Nurse home visits.

An overview of these and other strategies potentially applicable to childhood obesity prevention in health care settings follows.

BMI Data Collection

The Institute of Medicine and several federal agencies support BMI data collection for obesity prevention. BMI may be used as a surveillance tool to track obesity trends, or as a screening measure to identify overweight children and connect them to health care services. The debate continues as to whether child health information should be collected in the clinical or school setting. Tradeoffs exist for each approach; however, there is precedent for data collection in either setting.

Physician offices are a logical setting for BMI screening. Well-trained medical professionals routinely collect reliable height and weight data during doctor visits. This approach is limited, though, in that it only captures health information from a certain cohort—children who visit physicians routinely—and not all of these young patients have the highest obesity risk. In addition, the number of children reached through the clinical setting is likely to be smaller than in the school setting.

One factor likely to increase clinical BMI data collection is the 2009 addition of two new measures to the Healthcare Effectiveness Data and Information Set (HEDIS): an adult BMI assessment, and weight assessment and counseling for nutrition and physical activity for children and adolescents. HEDIS measures heavily influence the practice of medicine—the National Committee for Quality Assurance estimates that more than 90 percent of U.S. health plans use HEDIS—so these changes could make obesity prevention more routine in health care settings.[177, 178]

The most appropriate data collection setting also depends on whether a state has the data reporting infrastructure required to capture and aggregate BMI information from the physician community to determine state-level obesity

trends. Often health data systems are built for the purposes of collecting a specific type of health information, such as immunization registries. Once the data collection infrastructure is in place, however, it can be expanded to include BMI data and a host of other health data sets.

Several states already have the requisite data collection infrastructure in place. For example, KIDSNET—**Rhode Island's** comprehensive electronic health information collection system—began with the primary goal of ensuring that all children in the state received the right immunizations at the right time. It was expanded to include other information, such as birth records, blood lead screenings, and preventive health services. The KIDSNET database collects health information on all children born in the state or on children seen by a participating Rhode Island provider. It currently contains information on more than 200,000 children and more than 2.2 million immunization records. KIDSNET does not currently collect BMI, but building that capacity into the system is planned for the future. The state currently is developing system specifications to allow the KIDSNET interface to accept height and weight, calculate BMI, and share that information with authorized users.

Schools, too, have been involved in collecting medical data from children for decades—for instance, screening for scoliosis, hearing impairment, and vision acuity—and communicating with parents on health matters. So statewide BMI data screening in school settings would not be a unreasonable leap for education officials and state policymakers. (see Chapter 4).

An extensive evaluation of BMI screening in the school environment and confidential reporting of results to parents was funded by the CDC, found no negative outcomes related to screening, an increase in parents' ability to accurately identify their child's weight status, and an increase in awareness of the connection between childhood obesity and related health problems.[179]

As part of the state's Mass in Motion obesity prevention initiative, the **Massachusetts** Public Health Council is requiring all public schools to measure students' BMI, confidentially report findings to parents on their child's health status, and work with physicians to promote healthier eating and exercise habits. The BMI screenings will be conducted annually by school nurses during the first, fourth, seventh, and 10th grades. In addition, aggregate BMI data will be reported to the Department of Public Health to track statewide obesity trends. Parents have the ability to opt their child out of the screening process. The new regulations will be phased in over the next 18 months.

Electronic Health Records

Statewide electronic health records are an increasingly accepted strategy for capturing children's health information in a portable, easily accessible, and secure way. Statewide electronic health record systems also have the added benefit of providing the necessary infrastructure that would be required for BMI data collection. In addition, an electronic medical record may also serve as a child's medical home, offering improved care coordination and treatment practices. Although this policy strategy has strong applicability to childhood obesity prevention and broad population reach over the long-term, it's a costly and resource-intensive system to set up. Still, several states have implemented electronic health record systems.

Michigan, for example, set up the Michigan Care Improvement Registry (MCIR) to collect and make available reliable information on immunizations. MCIR benefits health care organizations, schools, licensed child care programs, and Michigan's citizens by consolidating immunization information from multiple providers. This reduces vaccine-preventable diseases, over-vaccination, and allows providers to see up-to-date patient immunization history. MCIR also assists with pandemic flu preparedness and can track vaccines and medications during a public health emergency. In 2006, MCIR was expanded to include adults. Most Michigan health plans use the MCIR process to provide data for their HEDIS measurement. Some health plans have eliminated chart audits altogether because of their use of the MCIR system.

Physician Counseling

Physician counseling—patient screening; consistent/personally tailored advice; nicotine replacement therapy; followup contact; and motivational interventions for patients unwilling to quit—is an established component in tobacco cessation. Research shows that cessation rates were nearly 11 percent for patients receiving less than three minutes of counseling and as high as 19 percent for those receiving more than 10 minutes of counseling.[180]

Although the National Institutes of Health developed clinical physician guidelines for the identification, evaluation, and treatment of overweight and obesity in adults, physician counseling guidelines are not as well-established in this field. And physician counseling guidelines for childhood and adolescent obesity are scant. In 2003, the American Medical Association released a series of educational booklets on Physician Assessment and Management of Adult Obesity that outlined the following steps to assess and mitigate overweight and obesity:

- Evaluate patients' weight-related health risks;
- Talk to patients about weight loss;
- Help patients manage weight through dietary management;
- Help patients manage weight through physical activity;
- Help patients manage weight through pharmacotherapy (if applicable);
- Help patients manage weight through surgery (if applicable);
- Optimize communication and counseling style; and
- Optimize office environment.[181]

In addition, in 2006 the National Heart, Blood, and Lung Institute released an updated version of the clinical physician guidelines for adults, which included an "Aim for a Healthy Weight Provider Kit" with physician tips for initiating weight management discussions with patients. However, these guidelines are still geared toward adult obesity.

In 2009, HEDIS added a measure that encourages physicians to evaluate weight assessment and counseling for nutrition and physical activity in children, showing that the issue is garnering more attention. HEDIS may decide to develop official physician obesity prevention counseling guidelines for children and adolescents in the future.

Early Periodic Screening, Diagnosis, and Treatment (EPSDT) Services

Because of a lack of consistent and frequent care among many children enrolled in Medicaid, some public school systems have used school nurses, health clinics, or other child health professionals to track Medicaid enrolled students' health and welfare.[182] School-based health care providers also triage at-risk or sick children to the Medicaid providers in the community by setting up visits and monitoring children's health. This model has particular importance for children with complex health problems, such as diabetes, heart disease, asthma, and other chronic conditions related to obesity.

Mississippi Cool Kids is a free health care program sponsored by Medicaid for Mississippi's children and youth from birth through age 21. It provides a way to get comprehensive annual medical exams, checkups, followup treatment, and special care to children to improve their health outcomes. Mandatory periodic screening services include comprehensive physical examinations, developmental and oral health assessments, vision and hearing screens, adolescent counseling, and any necessary referrals. With this program, Mississippi offers EPSDT services through school nurses, which allows a school to become a Medicaid provider for EPSDT services, entitling it to reimbursement. The program's objective is to establish school-based registered nurses to provide EPSDT services to every eligible child and to finance the cost to the school under Medicaid.

North Carolina's IN4Kids program (Integrating Nutrition 4 Kids) aims to reduce childhood obesity by providing an economically feasible way for physicians to incorporate nutritional counseling into their practices. The North Carolina Health and Wellness Trust Fund (HWTF) provided funding to place part-time registered dieticians at six to eight primary care Pediatric or Family Medicine practices (each affiliated with one of the four North Carolina academic medical centers) to provide services to children who are at risk for overweight, overweight, or obese without co-morbidities. Duke University is measuring its medical practice's ability to effectively integrate this nutritionist in its practice and to collect reimbursement for the treatment.

School-Based Health Centers

SBHCs are fully equipped medical offices in schools that provide primary care, mental health care, and dental services. Currently, there are 1,700 SBHCs across 44 states. They are funded by states, localities, school districts, community-based organizations (CBOs), private insurance, foundations, and corporate contributions. Of the SBHCs across the country, 44 percent receive reimbursements from the state Children's Health Insurance Program (CHIP) and 71 percent from Medicaid.[183]

It is important to note, however, that some states have contracts with managed care organizations that do not include SBHCs in their networks, even though SBHCs serve the Medicaid and CHIP population. There are ways around this barrier, however, if states revise those contracts to allow for this type of reimbursement. Several states have taken action to remove those reimbursement obstacles for SBHCs.

Maryland is one state that has taken this action. SBHCs are reimbursed for providing onsite, comprehensive, preventive, and primary care. Services may also include mental health, oral health, ancillary care, and supportive services. There are currently 64 SBHCs in Maryland, with more centers planned. SBHCs employ primary care providers who work cooperatively with the school nurse to screen, diagnose, treat, and refer children

for medical conditions. The nurses then evaluate the problem at hand and either provide care or refer students to the appropriate provider of care. Maryland's SBHCs have been effective in diagnosing and treating illness, managing chronic health conditions, and increasing school attendance for at-risk children. SBHCs are especially important in the state's rural counties, which have few pediatricians or other child health professionals and can best deliver health care services through schools.[184]

In **Texas**, there are approximately 85 SBHCs around the state receiving reimbursement for services. They provide comprehensive preventive and primary health care services to students at school. Most of the centers in the state are located in a permanent facility on campus. Each center is staffed by a multidisciplinary team of child health professionals, including some combination of physicians, nurse practitioners, school nurses, social workers, licensed professional counselors, and dentists. The centers in Texas are open for treatment about 40 hours per week for physical health care, 37 hours per week for mental health care, and about 4 hours per week for dental care.[185]

Nurse Home Visits

Nurse home visit are a proven way to effectively deliver health and wellness services to children, particularly to those at risk for injury, malnutrition, or abuse. Results from a 15-year followup evaluation of a nurse home visitation program targeting prenatal women through the first few years of their children's lives demonstrated the following results:[186]

- 56 percent fewer doctor and hospital visits resulting from childhood injuries through the age of two; and
- 80 percent fewer days of child hospitalizations for injuries or ingestion in the first two years of life.

Although nurse home visits' impact on childhood obesity was not specifically evaluated, similar screening and developmental services could be applied to help tackle the problem.

Oklahoma runs a nurse-family partnership program called Children First, a primary prevention program to improve pregnancy outcomes, child health and development, and parenting skills. It also aims to strengthen the parent-child bond and to encourage parents to further their schooling or find employment after pregnancy. Public health nurses with specialized training provide home visitation services to eligible pregnant women and their babies, starting before the 29th week of pregnancy and extending until children reach their second year. The nurses provide education and information; assess family needs, child health and development, and safety; and connect mothers to their primary care physicians and other community resources. The program has successfully improved the health of first-time mothers and their children; for instance, about 75 percent of Children First mothers initiate breastfeeding—higher than the state's rate for all mothers. The infant mortality rate among Children First infants is half that of other first-time births in the state, with higher-than-state-average child immunization rates.[187]

Clearly, health care providers can play an important role in obesity prevention, but their exact roles still needs to be defined. Responsibility for reversing childhood obesity trends should not fall solely on the health care sector; rather, it must be one part of a comprehensive, multisector approach to encourage health and wellness among children and families.

Moving Forward

Over the next three years state budgets are projected to have $600 billion shortfall, and governors may need to look other places to continue improving the health and welfare of the nation's children.[188] One resource governors may consider is the nation's retiring workforce—in particular, former health care providers, including some 250,000 retiring physicians and many other health care retirees—who can be engaged in meaningful volunteer service opportunities at relatively low cost.[189] Such a service corps could be enlisted to mentor families and children, promote obesity prevention and wellness, and screen for and monitor chronic conditions.

Working in partnership with the Corporation for National & Community Service, the American Association of Retired Persons, and other organized retiree associations, states can develop "Senior Corps" that inspire former health care workers to use their valuable skills and extensive experience to give back to at-risk and underserved communities, where millions of children need health and wellness support services.

Although few easy answers exist to prevent childhood obesity, it is clear that a coordinated, multisector approach that engages all levels of government, as well as the private sector, community-based organizations, and parents, is an essential first step.

This chapter highlights three comprehensive strategies that governors can take to promote effective and promising childhood obesity prevention practices in their state:

- Setting a vision and building public awareness by using the bully pulpit;
- Coordinating state agencies through governance structures; and
- Collecting data on children's health to make well-informed policy decisions.

Setting a Vision and Building Public Awareness

The many childhood obesity prevention programs that exist in states today often lack common objectives and goals due to little or no coordination across community and state providers. Poor coordination and diffuse leadership can lead to fragmented services for children and families.

Governors can use the bully pulpit to develop and communicate a comprehensive, statewide vision that inspires and engages multiple stakeholders. Their vision serves as a framework within which community leaders, lawmakers, parents, and other key participants can make policy decisions and implement programs to improve children's health. To ensure successful implementation of their vision, governors can:

- Be cross-cutting by engaging public and private sector leaders, parents, teachers, and other relevant stakeholders in the shared mission;
- Provide clear and specific goals, objectives, and measures of progress—including data collection systems;
- Set agency-specific objectives that contribute to the larger goal of improved children's health in the state; and
- Take into consideration a variety of populations—including those most at risk for obesity—and the multiple settings that engage children, such as schools; after-school sports, tutoring, and recreation programs; child care agencies; physicians' offices; and others.

Several governors have stood out in exercising the bully pulpit to prevent childhood obesity. In 2007, for instance, Governor Tim Pawlenty set a goal to reduce childhood obesity among **Minnesota** children by 50 percent by 2012 and directed the state's Department of Health to institute a common plan and direction to centralize state childhood obesity efforts. As a result of Governor Pawlenty's leadership, an unprecedented investment of state funds in tobacco and obesity prevention has been launched. In August 2009, the Department of Health announced $47 million in grant to 39 Minnesota communities. The state estimates that this investment and resulting initiatives will reduce health care costs by nearly $2 billion by 2015.[190]

Michigan Governor Jennifer Granholm directed the state's Surgeon General to develop a five-year strategic policy plan to reduce childhood obesity, which consisted of six primary elements:

1. Tracking body mass index rates among children;
2. Clarifying Medicaid coverage policies for physicians;
3. Requiring schools to form coordinated school health councils;

4. Increasing the quality and quantity of physical education in schools;

5. Increasing the affordability and availability of healthy foods in urban areas; and

6. Implementing Complete Streets and Safe Routes to School programs to encourage walking.

Governor Granholm then directed seven state agencies—the departments of Community Health, Agriculture, Education, Human Services, Energy, Labor and Economic Growth, and Transportation—to work together to implement the first-year goals of the strategic policy plan.

Beyond setting a vision, governors may want to place additional emphasis on goals and objectives for communities that are especially vulnerable to obesity. Many low-income communities face an array of challenges to living healthier lives—from the lack of recess for youngsters to the lack of grocery stores to unsafe streets that hinder neighborhood recreation such as walking and biking.

A decade ago, many low-income Philadelphia neighborhoods did not have access to fresh foods, which contributed to high rates of diet-related chronic disease. To remove this barrier, improve community health, and stimulate economic growth in disadvantaged communities, **Pennsylvania** Governor Ed Rendell used the power of the executive office to partner with several public and nonprofit entities on the Fresh Food Financing Initiative. This pioneering program, which provided grocers with "gap financing" in addition to grants and loans, resulted in more than 65 grocery stores being built in low-income areas across the state, creating more than 3,700 jobs, and supplying spinach, tomatoes, and other healthy produce and foods to underserved areas.

Governors have many tools and techniques to create strategic and effective policy solutions that target the problem of childhood obesity. For example, governors can work with advisory groups, legislators, industry leaders, and ad-hoc committees to lend technical support and develop well-articulated plans that meet the governor's objectives. Many states have established Governor's Fitness Councils, akin to the President's Council on Physical Fitness and Sports, which can promote state-specific fitness goals that can be part of an overarching obesity prevention strategy.

Finally, the bully pulpit is one of the most powerful gubernatorial platforms to set public priorities. By setting a vision and placing issues on the public agenda, governors can—both publicly and privately—build support for and drive the state's agenda toward improving children's health and preventing childhood obesity.

Coordinating State Agencies Through Governance Structures

Although many state agencies oversee and administer some health-related programs and services, there is little cross-agency coordination of childhood obesity prevention programs and services. Typically, the Department of Agriculture administers food programs and the Department of Housing administers community design regulations, while the Department of Public Safety makes sure communities are safe for active living. Lack of coordination among these and other agencies results in fractured services for families, children, and communities and creates frustration among nonprofits and other stakeholders trying to navigate state programs.

By enhancing coordination across state agencies, the governor can focus state resources on specific tools and processes to inform policy decisions and improve the health and welfare of children. Cross-agency coordination enables the governor to col-

lect relevant data, conduct analyses, track trends, and make strategic investments to improve children's health.

The following five methods have been used by governors to yield substantial coordination on complex policy issues:

1. Institute a Government Management, Accountability, and Performance (GMAP) process to directly manage policy and program decisions related to children's health;
2. Appoint a Surgeon General (or senior advisor) to oversee state programs and policies related to children's health and make policy recommendations to the governor;
3. Create an interagency task force charged with improving the operational alignment and cross-sector coordination of programs and policies;
4. Establish an Office for Healthy Schools in the Department of Education to consolidate health-related K-12 programming and policies; and
5. Create Memoranda of Agreements (MOAs) between state agencies to build service-delivery systems and programs among multiple agencies.

Each requires varying levels of gubernatorial leadership and state agency staff engagement and a sustained focus on the articulated policy. These methods, employed individually or in combination, will allow states to examine how programs and policies impact children's health status.

Institute a Government Management, Accountability, and Performance (GMAP) Process

A GMAP process requires direct engagement and leadership from the governor and the relevant cabinet secretaries. The governor meets with senior state leadership regularly to continually assess the state's performance and success by:

- Establishing objectives and goals;
- Establishing complementary policies and ensuring effective implementation;
- Reviewing state performance data;
- Analyzing and mitigating problems; and
- Developing specific action plans that improve children's health and meet the governor's goals and objectives.

At the core of this method, however, is the governor's direct leadership and engagement. If the governor's direct leadership is not feasible, then methods two through four may serve as a better alternative.

Washington Governor Christine Gregoire directed state agencies to adopt a comprehensive GMAP system that allowed government leaders to make decisions with greater clarity and accuracy and report to citizens on government performance. The governor's Children's Administration, which coordinates childhood abuse and neglect programs, is one outgrowth of this governance system. Relevant cabinet agency commissioners meet with the governor regularly and report on state response rates to allegations of abuse and neglect, among other issues, and develop management plans for underperforming regions.

Appoint a Surgeon General

A Surgeon General can help meet executive policy priorities, mobilize public and legislative support, and implement effective policies that improve children's health and welfare. This appointee can oversee and administer detailed guidelines for agency coordination and engagement, identify measures of success, and regularly monitor progress across agencies.

Centralizing responsibility for programs and policies that are spread across many state agencies may have the following results:

- Overcome the state policy complexities and challenges posed by childhood obesity by consolidating efforts into one coherent strategy;
- Coalesce and align state- and local-level programs and policies by coordinating across sectors, reducing duplication, and making the most of limited budgets; and
- Facilitate success and reduce the prevalence of childhood obesity by providing leadership, mitigating and analyzing problems as they arise, and coordinating public, private, and local efforts directed toward children's health.

Arkansas, **Florida**, and **Michigan** have governor-appointed Surgeon Generals. In each state, the Surgeon General is charged with leading and coordinating all obesity and wellness programs.

Create an Interagency Task Force

An interagency task force enables state agencies to align program and policy priorities related to childhood obesity and children's health and welfare by bringing together the many state programs that directly or indirectly impact young people's wellness. The task force may be responsible for collecting data, conducting analyses, tracking trends, and making recommendations for executive-level policy changes. Task forces may convene cabinet- or subcabinet-level commissioners; both have demonstrated success in states.

The following types of activities might be conducted by an interagency task force:

- Developing clear, relevant, and easy-to understand measures that show program success;
- Demonstrating a program's or policy's contribution to the state priorities;
- Gathering, monitoring, and analyzing program data;
- Evaluating program effectiveness;
- Holding regular problem-solving sessions with senior state officials to improve performance;
- Allocating resources based on proven strategies;
- Reporting regularly to the governor on performance outcomes; and
- Engaging parents and stakeholders in key policy developments.

To coordinate a myriad of obesity programs and policies in his state, Governor Bill Richardson established the **New Mexico** Interagency for the Prevention of Obesity, which has the following multipart mission:

- Build greater alignment across state programs to create sustainable, consistent, and collaborative efforts and messages that increase physical activity, improve nutritional well-being, and treat and prevent obesity;
- Partner with the private sector to strengthen and support the governor's obesity prevention priorities; and
- Develop policies for obesity treatment and prevention.

This interagency task force represents more than 40 state programs governed by eight state departments, including Aging and Long-Term Services; Agriculture; Children, Youth, and Families; Education; Health and Human Services; Parks and Recreation; and Transportation. More recently, the task force added several non-voting representatives from the business and advocacy community.

As a result of this interagency collaboration, state agencies agreed to focus all their nutrition and physical activity messages and programs on nine key behaviors, including increasing physical activity, limiting screen time, eating breakfast, and encouraging family meals, among other things. Additionally, the task force is piloting a community-wide childhood obesity initiative in Las Cruces and has applied for USDA Team Nutrition grant funding.

In 2004, **North Carolina** created the Study Committee on Childhood Obesity to reduce and prevent childhood obesity by making state-level policy recommendations that improve children's health and welfare. Governor Beverly Perdue created this committee during her tenure as North Carolina's lieutenant governor. The committee has improved physical activity policies in schools, nutrition standards for elementary schools, and vending standards for all schools. Various stakeholders from different state agencies, including the state departments of Health and Human Services and Public Instruction, and sectors across the state, including legislators, pediatricians, academicians, and the faith-based community, continue to serve today.

Establish an Office of Healthy Schools in the Department of Education

An Office of Healthy Schools (OHS) in the state's Department of Education can consolidate state health-related educational programming and policies. The OHS should be charged with examining school-based programming and policies that directly or indirectly impact a child's risk for obesity. The office can collect and identify school-based best practices in the areas of curriculum development, physical activity, nutrition, and other health services. In addition, the OHS could provide schools with institutional and technical assistance support for:

- Coordinated school health initiatives;
- Child nutrition (e.g., National School Lunch Program, healthy vending options);
- School nursing programs;
- Physical education;
- Mental health, counseling, and social services; and
- Safe and drug-free schools and communities.

This targeted policy approach consolidates the many health-related demands on schools, reaches millions of children every day, and, if successful, narrows the documented achievement gap that exists among healthy and unhealthy students. To that end, the OHS could enable the governor to adopt a number of joint children's health and education objectives, communicate those goals, and ensure a continuous cycle of policy and program analysis and improvement.

Mississippi Governor Haley Barbour partnered with a local nonprofit foundation, The Bower Foundation, to establish the Mississippi Office of Healthy Schools in the Department of Education. The Mississippi OHS is charged with making the connection between healthy students and high academic achievement. The OHS offers coordinated school health services to 152 school districts throughout the state by coordinating initiatives related to safe and orderly schools, child nutrition, coordinated school health, school nurses, Early Periodic Screening Diagnosis, and Treatment (EPSDT), HIV/AIDS prevention, and federal Title IV Safe and Drug-Free Schools and Communities.

Create Memoranda of Agreements Between State Agencies

Coordination across state agencies can yield substantial results, but may be cumbersome if duties and accountability are not clearly delineated. Some states have Memoranda of Agreements (MOAs) between state agencies to build complementary service-delivery systems and programs. MOAs provide a framework for how multiple agencies can collaborate, where resources and funding streams can be braided or blended, and how a broad spectrum of existing state initiatives can come together to work in common purpose.

Rhode Island established a Memorandum of Agreement between the Department of Human Services and the Department of Education to develop and implement a comprehensive, coordinated, interagency delivery system for services to children with disabilities and developmental delays from birth to age five. The goal of the agreement was to ensure that both agencies could fulfill regulatory requirements for services offered to this specific population, while maximizing available resources and avoiding duplication of services. The following specifics were included in the agreement:

- A definition of financial responsibilities;
- Coordination of state efforts to identify the children with developmental delays;
- A smooth transition from early childhood services to public school programs;
- Information sharing;
- Coordination of agency activities at the local, provision-of-service level; and
- A procedure for resolving interagency disputes.

There are an array of tools and techniques governors can use to improve coordination among state systems that impact children's health status and well-being. Each of the aforementioned methods may help achieve gubernatorial goals and objectives, ensure cross-agency collaboration, and enable governors to translate policy concepts into program results and improve the health of all children in the states.

Collecting Data on Children's Health

To date, there is no national system offering governors an accurate, detailed annual assessment of childhood obesity demographics and trends at the state level. Collecting accurate data on children's health will enable the governor to proactively manage policy decisions and marshal available resources to address children's health needs, as opposed to reacting to the problem after the fact.

One of the most widely accepted methods for determining a child's risk for obesity is body mass index (BMI) data collection, which enables governors to:

- Monitor and track childhood obesity trends;
- Make informed policy decisions;
- Tailor state policies and program toward higher risk populations;
- Improve the quality of children's programs; and
- Evaluate the impact of state policies and programs, often in partnership with state universities.

Although not an actual measure of body fat, it is well-documented that children with a high BMI are likely to have a high percentage of body fat and weight-related health risks. One of the largest benefits of BMI measurement is that it is noninvasive, relatively inexpensive, and—with proper training—easy to use.

BMI measurements may be collected in schools or clinical settings. Both methods have advantages and disadvantages, and there is precedent for both. While collecting BMI data in school settings

has the potential to reach more children (**Arkansas** collects BMI data on nearly 97 percent of public school children), workforce training may be a barrier to collecting accurate, quality data. Alternatively, BMI data collected in the clinical setting may be of higher quality because well-trained medical providers assemble the information. However, this approach tends not to reach nearly as many children as measurements taken in school settings.

In **California**, Governor Arnold Schwarzenegger works through schools to administer the FitnessGram test to all public school students in grades five, seven, and nine (approximately 1.4 million students). The FitnessGram is one of the most commonly used programs across the country to measure student health. More comprehensive than a BMI screening program, the Fitnessgram also measures students' physical activity, aerobic capacity, muscle strength, endurance, and flexibility. In California, FitnessGrams are completed by students each year and results are reported to schools and parents by the state Department of Education.

Rhode Island is pursuing BMI data collection through the clinical setting. Governor Don Carcieri maintains KIDSNET, a comprehensive, confidential electronic health record for children born in the state. Health care providers collect information—such as birth records and universal newborn screening results, height and weight records, immunization histories, blood lead test results, hearing screening results, and WIC and Early Intervention program participation—and enter it into the child's electronic record. KIDSNET does not currently collect BMI, but state officials plan to build in that capacity. The state currently is developing system specifications to allow the KIDSNET interface to accept height and weight, calculate BMI, and share that information with authorized users.

If states consider collecting BMI among children, whether in school or clinical settings, officials should adhere to the following safeguards:[191]

- Introduce the program to school staff and community members;
- Obtain parental consent;
- Train staff to administer the program;
- Establish safeguards to protect student privacy;
- If reporting results to parents, do so confidentially, include information about connecting with the child's physician, and provide educational tips for being healthier as a family at home;
- Obtain and use accurate equipment;
- Accurately calculate and interpret the data;
- Develop efficient data-collection procedures;
- Avoid using BMI results to evaluate student or teacher performance; and
- Regularly evaluate the program to align outcomes with goals.

Arguably one of the most important considerations for BMI collection is what states do with the data. BMI surveillance can make significant progress toward a state's child health goals in the near-term. Monitoring trends and institutionalizing the surveillance program, however, will ensure long-term success by combining both analysis and policy planning for sustained change. By ensuring that the collected data is processed in a way that contributes to broad and balanced new strategies, as well as refining program goals and objectives along the way, governors and states will be going a long way toward preventing childhood obesity.

Chapter 8—Outlook for the Future

Preventing childhood obesity requires a coordinated, multisector approach that engages all levels of government, the private sector, community-based organizations, and parents.

Each governor draws from the multitude of existing and developing programs and policies to comprehensively address childhood obesity in their state. As this report shows, many are taking obesity prevention policies and programs to a new level of effectiveness by building health information surveillance systems, seeking effective school health policies, and establishing state governance systems to enhance program coordination across state agencies.

These efforts, in turn, are shaping the national landscape for obesity prevention, which will lead to measurable improvements in children and family health overall and reduce long-term health care costs.

The willingness of governors to proactively address childhood obesity through state-level policy innovations has accelerated national progress in this key public health area and will ultimately help today's children and youth grow into happier, healthier, and more productive adults.

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NGA CENTER DIVISIONS

The NGA Center is organized into five divisions with some collaborative projects across all divisions.

- **Education** provides information on early childhood, elementary, secondary, and postsecondary education, including teacher quality, high school redesign, reading, access to and success in postsecondary education, extra learning opportunities, and school readiness.
- **Health** covers a broad range of health financing, service delivery and policy issues, including containing health care costs, insurance coverage trends and innovations, state public health initiatives, obesity prevention, Medicaid and long-term care reforms, disease management, health information technology, health care quality improvement, and health workforce challenges.
- **Homeland Security & Technology** supports the Governors Homeland Security Advisors Council and examines homeland security policy and implementation, including public health preparedness, public safety interoperable communications, intelligence and information sharing, critical infrastructure protection, energy assurance, and emergency management. In addition, this unit assists governors in improving public services through the application of information technology.
- **Environment, Energy & Natural Resources** analyzes state and federal policies affecting energy, environmental protection, air quality, transportation, land use, housing, homeownership, community design, military bases, cleanup and stewardship of nuclear weapons sites, and working lands conservation.
- **Social, Economic & Workforce Programs** focuses on policy options and service delivery improvements across a range of current and emerging issues, including economic development, workforce development, employment services, criminal justice, prisoner reentry, and social services for children, youth, and low-income families.

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